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AN EXPERIMENT IN THE STANDARDIZATION OF THE CASE-STUDY METHOD

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The methods, both of statistics and of case-study, deal with cases. Statistics deals with them in the mass, typically first by analyzing the case dealing with each item or factor as an independent unit for statistical treatment.¹ Predictions derived by statistical procedure are made upon an actuarial basis, that is, not for the individual case but for the group in which the individual falls.

The case-study, by contrast, takes the single case as its unit. It seeks by considering it in its entirety to make a prediction for the individual under study.

The distinction between actuarial prediction for a group of cases and individual prediction for the individual case may be seen in life insurance. Insurance companies have expectancy tables by which they can calculate the actuarial life expectancy of different groups in the population. But they also require a physical examination by a physician to determine the present state and prospects of health of a given individual.

This paper does not deal with case-study method in general but will be limited to the description of an experiment in the standardization for purposes of prediction of the case-study method. The data for this attempt are interview documents secured in the Study of Adjustment in Engagement and Marriage of One Thousand Engaged Couples. Interviews with both the young man and the young woman took place before marriage with about two hundred and fifty couples. Three years after marriage the couples are re-interviewed. For all these couples there are available the actuarial prediction of success in marriage according to the expectancy table worked out for the 526 couples studied in the report by Burgess and

¹It should be recognized that by methods of partial and multiple correlation, by factor analysis and matrix algebra these unit items may be grouped into clusters and combined for predictive purposes. But in this procedure the resulting combinations are aggregates of items or of clusters of intercorrelated items.

Cottrell in Predicting Success or Failure in Marriage, and a marital adjustment score also based upon the procedure outlined in this volume. Accordingly, it is feasible to compare a prediction based upon an examination of interview material with that upon a statistical manipulation of questionnaire data. It is also possible to compare both actuarial and case-study predictions with the actual marriage adjustment of the couple three years after marriage as determined by the second interview as well as by the schedule filled out at this time.

Up to the present, interpretation by the case-study method has been relatively unstandardized. It may well be as some of its exponents maintain, that its distinctive and highest value inheres in its unstandardized form and in the freedom thereby given to intuition and other forms of insight to apprehend the meaningfulness of the personal document. But the alleged superiority of the unstandardized interpretation should be determined empirically. It is possible that there are some gains to be achieved in the standardization of the case-study method which will partially or wholly offset the anticipated losses.

It is evident that in the actuarial procedure that once the predictive items have been selected that the insight and judgment of the investigator no longer function. The assignment of an individual to a risk group is a result of a statistical procedure that can be performed by a clerk. On the other hand, in the case-study method, the insight and the judgment of the investigator is depended upon to make the prediction for each individual case. It is for this reason that prediction by the case-study method can never be wholly standardized and that such efforts will, in the nature of the case, be limited (1) to the selection of ablest persons, i.e., those possessing insight to a high degree, and/or those with superior judgment and requisite training and (2) to agreement upon a certain type of procedure in making the prediction.

There are a number of procedures that may be followed in making predictions on the basis of personal documents such as interviews. Several of these that have been considered, some of which have been experimented with, will be briefly described before outlining in some detail the standardized procedure which has been followed rather systematically in the analysis of a number of interview documents.

The simplest procedure would be quite unstandardized, merely asking the person to make an intuitive judgment after reading the interview data upon the marital success of the couple. The investigator might, or might not, be asked to

record his mental procedure in arriving at his judgment. It would be desirable certainly to differentiate between an intuition that is over-all or derived from one or more aspects of the life history.

A second procedure would be by way of analysis of the case in all its individuality. The focus of attention here would be upon the significance of the uniqueness of the case for prediction of its future course. Gordon W. Allport has emphasized the "meaningful validity" of the personal document for predicting a given individual's behavior.

This concept of meaningful validity, (Max Weber's) I think, has important bearing on our power to predict in the concrete human instance. If prediction is our test of validity, it seems to me, the honors go not to "casual adequacy," but to "meaningful adequacy" in a given case. For example, I think we can predict that Wtadek (author of the life-history in The Polish Peasant in Europe and America) is going to say on important issues in his life, having read the total life and conceptualized it for ourselves, better than we could by a knowledge of all the casual laws of social science or psychology that we may have. . . .

The only way in which we can predict the chances that a given individual has of behaving in a certain way is to study him as an individual and especially his subjective mental processes with the aid of subjective categories. Part of the influence of The Polish Peasant is due to its implicit recognition of this distinction between two types of prediction (actuarial and individual) and its concentration upon the predictive powers of life history documents.²

The point of this type of prediction is that each case, theoretically, stands upon its own. The assumption is that if the life-history is relatively complete, or at least adequate upon essential aspects of the person's past experiences, that his future behavior can be forecast. There exists, according to this standpoint, in each person, repetitions of conduct, behavior sequences, and attitudes that can be projected into the future. There may well be statistics for the individual case and laws for the individual case. Theoretically, there is then no necessity for comparison with other cases. Practically,

²An Appraisal of Thomas and Znaniecki's The Polish Peasant in Europe and America, Herbert Blumer, Critiques of Research in the Social Sciences, 1, p. 121, Social Science Research Council, 1939.

whether or not comparisons are made with other cases, this procedure places emphasis upon the consideration of the unique features in each individual case as being significant for prediction of that case. Prediction of behavior for the individual case demands much more attention than has heretofore been given it.

A third prediction procedure is by way of typology. This procedure emphasizes the individual case by emphasis upon its totality as the unit and the extent to which it conforms or deviates from an ideal type or an empirical type. The ideal type of person who would be successful in marriage might be defined in terms of the domestic type of husband or wife who values home life with spouse and children above all other objects. The type would be distinguished from other ideal types which are by definition much poorer risks for marital adjustment as the career man, the society woman, and the sports man.

Empirical types, recognized in our culture, might be differentiated and their significance for marital happiness, particularly in combinations of spouses, defined such as "queen and courtier," "pants-wearing wife and henpecked husband," "play-boy husband and stay-at-home wife," "wayward-son husband and maternal wife," "sturdy-oak husband and clinging-vine wife."

The fourth procedure and the one actually now being tested somewhat systematically is the analysis of the interview data according to fourteen factors that in the interviews seemed to be dynamic in making for success or failure of the marriage in individual cases. This procedure lends itself to standardization somewhat better than those previously mentioned and therefore not only takes account of certain present limitations of statistical method mentioned below but also attempts to meet the criticism of lack of objectivity often brought against the case-study method.

Some of the considerations leading to experiment with this standardized procedure were as follows:

1. The Mass Nature of Statistical Prediction.

Statistical prediction upon any given case is essentially, in its present form, the application of the average weight of a given item or group of items derived from the entire sample to each individual case. There is evidently a fallacy in the procedure unless it can be assumed that each item operates with the same force in each case, and that it is not affected by its relation to other items. If it were possible

to secure 100,000 cases or more, it might then perhaps be feasible to find out how ten or less items act in the different possible permutations with each other.

2. Dynamic Factors.

In interviews with engaged couples, it became apparent that in each individual case certain factors were much more dynamic than others. Particularly it seemed that the configuration of factors was significant. An illustration of a dynamic factor which did not appear at all in our statistical data was the childhood relationship to the sex opposite parent as a significant influence both in marriage selection and in the happiness of the couple after marriage.

3. The Supplementation of Statistical Prediction with Prediction from Case Studies.

Clinical analysis of case studies, especially when used for treatment purposes, implicitly if not explicitly, involves prediction. In the past statistical prediction and clinical analysis of cases has proceeded with very little inter-relation between the two. It would seem that since each method complements the other, it would be valuable to make an attempt to combine the two in order to find out if prediction could be thereby improved.

4. The Possibility of Objective Analysis of Interview Data.

The chief objection against the use of case studies for prediction is the intuitive nature of their interpretation. Their analysis seems to be largely, if not entirely, subjective. The challenge is whether or not it is possible to introduce some standardization of procedure whereby different persons following the same instructions might not arrive at at least similar predictions.

Four informal seminars of graduate and of post-graduate students in sociology have been formed to provide findings to test this last point. There were available in the study of one thousand engaged couples about 250 interviews ranging, except for a few very short interviews at the beginning of the study, from six to thirty pages both for the young man and for the young woman. These were verbatim records either taken down by the same two interviewers or by a stenographic record and except in a few cases, practically every word spoken by the person in the interview was literally recorded. As the

interviewing proceeded, the questions raised became more and more focussed upon fourteen major items which seemed to be significant in the adjustment of the young man and the young woman in the engagement period. These are as follows:

1. Temperamental compatibility
2. Emotional interdependence
3. Early emotional relationships
4. Extent of love
5. Demonstration of affection
6. Sexual adjustment
7. Children
8. Common interests
9. Friends
10. Parents and In-laws
11. Cultural background
12. Philosophy of life
13. Religion
14. Economic conditions

It seemed to me and to Mr. Paul Wallin, who was my associate in the study, that these factors entered not only into the adjustment of the young people in marriage, but in determining the degree of integration of the relationship between the two. In certain couples the integration seemed to be so binding that the prediction could be made that nothing could happen which could break the relationship. At the other extreme were cases where the relationship was so loose that it seemed that even a slight circumstance might lead to its rupture.

INSTRUCTIONS FOR ANALYZING INTERVIEWS³

This project is an attempt to determine, through the analysis of interviews of engaged couples, what factors are operative in attracting two persons into a relationship which leads to engagement; in maintaining that relationship so that marriage is entered into; and in binding the couple in marriage or in disrupting that relationship. Since marriage occurs between adults, each of whom has a history, it is assumed that certain factors which had meaning in the past will continue to operate in the future. Those factors which have significance for evaluating the adjustment of the couple in engagement and

³This statement of instructions was prepared by Irene Toabe and Frieda Brim Wallin upon the basis of seminar discussion.

for predicting the degree to which husband and wife will be bound are listed below. Since we assume that a person is a unity, at any given time the end result of a great many forces, no one of which is independent of any other, it is to be expected that the categories listed will not be mutually exclusive. They do, however, serve to point the dynamic of inter-action of two people in a particular kind of association, viz., engagement and marriage.

For the purposes of comparison it has been found useful to assign ratings to each factor on the basis of a five-point scale: -2, very disrupting; -1, somewhat disrupting; 0, neutral; +1, somewhat binding; +2, very binding. Some factors tend for a particular couple to be of no importance in binding them, nor do they seem to act as forces tending to disrupt the relationship. Such factors may be considered as neutral and rated -0. For another couple, any of these factors might serve to bind them or to disrupt their working relationship. If the factors are positive in binding the couple, appear to be important but not markedly so, the rating is +1; similarly, if the factor tends in the direction of preventing a working union but not in a high degree, the rating is -1. The items which are rated -2 or +2 are those of so much importance that they tend (a) to act as markedly disruptive force, of (b) the converse, as a markedly binding force. Weights of -5 and -10 or +5 or +10 may be added to the regular ratings to describe those items which are exceptionally binding or disruptive to such a degree that a rating of -2 or +2 is not sufficiently descriptive of its strength in the relationship. Extra weights are added as subscripts to the regular five-point ratings in the following form: +2+₁₀. These numbers are an attempt to assign relative degrees of importance to the items in this list and in this sense, the scale may be interpreted as follows: 0 is of no importance; -1 is important; -2 is more important than -1; -5 is very much more important than -2; -10 is of extraordinary importance and serves to indicate a factor so crucial that it may, alone, serve to disrupt the relationship. A similar interpretation is given to the positive values on the scale. The regular scores and the subscript scores are totaled separately in the following form: +3+₁₅.

The strength of a given item in holding a couple together or disrupting the relationship may, in some cases, depend upon certain contingent circumstances which may occur in the future and the importance of the item will be increased or decreased accordingly. Whenever in the interview materials there is indication that alternative circumstances may enter in which will change the course of the relationship, an alternative rating should be given in the

column provided for such alternatives. The following are examples of such alternative circumstances which, except for unusual cases, will occur in the three categories, Economics, Children, and In-Laws.

(1) There may be two vocations open to a man, one of which will allow him to work in the city in which his home is established, and the other requiring constant traveling. If his wife is dependent upon his presence for emotional security, and the course of their relationship may depend upon which position he accepts.

(2) If a child is born to a couple both of whom work to provide for the material comfort which is necessary to satisfactory relationship, the child, by making it impossible for the wife to work and by adding to the expense of maintaining the household, may serve to change the relationship.

(3) For a couple whose relationship with one or both sets of parents tends to make for dissatisfaction, whether or not the couple will live with in-laws. This factor may be given a contingency rating only when there is indication in the interview that these are alternative possibilities in the future.

Contingency ratings are ratings alternative to the prediction ratings and as such utilize the full rating scale as explained above.

Where there are no data on which to base a rating, this should be indicated by a dash, thus —.

Procedure in analyzing the cases:

(1) It is suggested that the rater read, first, the man's interview, making tentative ratings and noting the evidence on which such ratings are based (listing the page on which the data appears for easy reference in rereading the case). The woman's interview should next be read, tentative ratings made, and evidence noted, as in the case of the man. Having read both interviews once, the man's case should be reread for possible revisions in ratings, final ratings being made in the light of the complementary evidence of both man's and woman's interviews. Finally, the woman's interview should be reread, revisions in scoring being made on the basis of the evidence in both interviews.

(2) Ratings are made on the basis both of the relationship in the engagement period, that is, in the present, and of the predicted relationship in marriage, as is indicated on the rating sheet by columns marked "N" and "P". The prediction is made for three years after marriage and the predicted score (entered in the column marked "P") will be based on the assumption that no

alternative circumstances will enter into the relationship to change its course. The column marked "C" will include contingency ratings in accordance with the directions listed above.

(3) It will be noticed, also, that ratings are given to the man and woman separately, for although the relationship is a dynamic one, certain factors may not be equally binding for both man and woman.

(4) The rater will indicate whether his rating of each category is based on statements which appear in the interviews or on inferences from data which appear in the materials but which do not take the form of explicit statements. This information will be entered by using the notations "S" or "I".

(5) Space is provided beside the rating columns both on the man's and the woman's sheets so that the data on which each rating is made may be entered. These data will be in the form of direct statements whenever possible.

(6) The back of the folder provides space for a rather full statement by the rater of the dynamics of the relationship, that is, the factors which will be outstanding in continuing or disrupting the relationship. This statement should include the rater's judgment as to what the course of the relationship will be and should be supported by an explanation of the dynamic factors which are present in the engagement period and which must be considered in predicting the future relationship. In cases where the rater believes that the process is contingent on the introduction of alternative circumstances, the contingencies should be explained.

(7) Upon the first page of schedule should be entered certain selected items of information upon the young man and young woman which will be provided upon each case in addition to the interview data.

RATING THE FACTORS

1. Temperamental Compatibility.

Each person tends to show consistent, broad reaction patterns in his approach to life experiences. He may be aggressive, suspicious, trusting, easily angered. The course of each person's life is, of course, markedly affected once the temperamental pattern is established, and in the marital relationship, the compatibility of temperaments of the two persons is a vital factor. These ways of reacting are typical and so are revealed in all aspects of the individual's life, in the relationship with parents, siblings, friends, and fiancé. If each member of the

engaged couple is even-tempered and there are no clashes; or if quarrels occur but the reaction is mild, this factor may tend neither to bind the couple nor to disrupt the relationship. If there is temperamental conflict between a quick-tempered man and a quick-tempered woman who are easily reconciled and for whom the quarrel serves only as a means of "letting off steam," the temperaments may be quite compatible. If the husband is aggressive, the wife non-aggressive, the relationship may be exactly suited to the temperaments of each. On the other hand, both may be extremely irritable and either or both may hold anger for long periods so that reconciliation is difficult and the quarrel is remembered and resented. This combination of temperaments portends an unworkable marriage.

The traits of the two persons are to be examined in the light of whether they actually make for quarreling or overt conflict, explicit mention being made in the interview; or, if there is no direct evidence of such clashes, whether the nature of the relationship is such that potential stress or harmony can be inferred.

SCORING

- +2 - To be given where the rated person's relationship to the other on this level is completely harmonious, and where, in addition, it is clear that the temperamental compatibility plays a decisive rôle in binding him to the other.
- +1 - To be given where the relationship is harmonious. The difference between this score and that of +2 would be that here the fact of compatibility would be recognized as one satisfactory aspect of the relationship but its importance in holding the two persons together would be less.
- 0 - To be given where the rated person gets along fairly well with the other or where any clashes that do occur are negligible. It is given in cases where there is an absence of any important conflicts to pull the couple apart but, also where this absence has no particular strengthening effect on the relationship.
- 1 - To be given where, due to clashes of temperament, there is evidence of disharmony which is unsatisfactory to the person rated. However, the dissatisfaction engendered by the conflict is not so great as to suggest a break in the relationship because of it.
- 2 - To be given where it is clear that there is a great deal of conflict resulting from clashes of

temperament and where the dissatisfaction on the part of the person rated might easily lead to breaking the relationship if compensatory binding factors are not present.

2. Emotional Interdependence. This category is concerned with the degree of satisfaction of emotional needs which each member of a couple obtains from the other. For example, both members of the couple may be self-sufficient, emotionally independent of the other, so that this factor will serve neither to bind them nor to disjoin them. However, an individual who desires security and repeated assurances of being loved would have slight chance of a satisfactory marriage with a man who is desirous that all attention be directed toward himself and who is unable to offer her any security. On the other hand, the chances of success are excellent if the husband is aware of the needs of his wife and willing to satisfy them. They are good if, though unaware specifically of the needs, the very dependability exhibited in a phlegmatic personality is reassuring of his devotion to her.

SCORING

Where one member of the couple has a given emotional need and that need is satisfied by the other member, he would receive a positive rating. Where such needs are present but are not satisfied, a negative rating would be given. Where it is apparent that the person is relatively self-sufficient and has no emotional needs that the other must satisfy, the rating is 0, since this factor operates neither to strengthen nor to weaken the relationship.

The difference between a rating of +1 and +2 would be a matter of degree of dependence which would rest (a) on the extent of the need and (b) on the extent of its satisfaction. If the person being rated has a strong emotional need and that need is very adequately satisfied by the other, the emotional dependence in that case would be very great and would serve as a strong binding factors. Such a person would deserve a +2 rating. If the person's need is not very great, but still is present and is satisfied, the rating would be +1.

The difference between a -1 and a -2 rating is also a function of the strength of the need and, in this case, the extent to which it is not satisfied. If the person has a need which is not very great and that need remains unsatisfied, the rating would be -1. The person here experiences a measure of dissatisfaction but, since

the need is not of major importance, this factor is not a decisive one. If a person has a very strong need and receives no satisfaction of it in the relationship, the rating should be -2, since here the complete lack of satisfaction of an important emotional need would mean a major stress in the relationship.

The other twelve items are similarly discussed in the instruction sheet.

The rating scale appended to this paper was then prepared, and each member of the seminar group consisting of five to seven persons, was asked to make his ratings on each of the fourteen factors, entering the data taken from the interview in support of the rating of each individual rating for the man and for the woman in the appropriate places. Each case-study was read and rated before the meeting of the seminar, a master sheet being prepared showing how each person rated each factor as binding or disrupting both at present and during the engagement and for the future as predicted in marriage. In the seminar each item was taken up in order, and the members of the group were asked to justify each rating which they made. The group discussion often lead individuals to revise their rating although there was no insistence upon uniformity. The original ratings are retained in the upper half of each rectangle of the rating scale and the revised rating entered on the lower half.

In each of the groups it was found that certain persons had a higher aptitude for making satisfactory ratings than other persons. This was, of course, a subjective judgment on my part; but it seemed to be correlated in almost all cases with the ability, sociological training, and experience of the persons. It was also apparent that while ratings varied rather widely during the first two or three weeks, that they tended to become more uniform at the later sessions of the seminar.

Each member of the seminar group was asked to make an analysis of the dynamic factors operating in each case. These analyses varied from short outlines of the operation of these factors to more extended statements. The following is an illustration of one of the latter.

ANALYSIS OF CASE 736

This is a case of the genus of Hamlet and Ophelia. X is like Hamlet in his indecisiveness and impracticability. Y is like Ophelia in her combination of sympathy with his dreams and of a strong strain of practicality.

The dominant influence in the formation of X's personality was his childhood relation to this mother. He pictures his mother as a matriarch ruling the home like an absolute and tyrannical even if benevolent despot. He says, "The atmosphere at home contributed a lot to my backwardness. I was never allowed to express myself, none of us were. We were just children to her (mother). She wanted everything done her way. She used the strap unmercifully."

His mother dominated him in the formation of his ideals. X thinks that he was her favorite child. He says, "My mother still hopes that I will turn out to be something and outshine the rest. She thought it would be a nice idea to have a doctor and a lawyer in the family. My younger brother is studying for law, but I feel he is not equipped for it."

X unconsciously identifies himself with his father, who is dominated by his wife in much the same way as the children. When asked which parent he resembles most he answers significantly, "I'm more like my mother in ambition." Evidently he is more like his father in everything else as in procrastination, indecision and in his father's characteristic of "always making promises he could not keep."

X's characteristics of aiming higher than he can shoot, of presenting a false front, of substituting dreaming for action, and his cant about idealism, come out in his aspiration to study medicine, his pretense to Y that he was engaged in medical study and in statements such as the following: "I consider (medicine) the highest form of study, the most thorough form..... This year I am getting three A's definitely. I didn't tell her it was the school of chiropody. My ideals were always higher. Morally she is 100%, perhaps I can say the same..... I can be a martyr to the cause better than she can. It's better to have loved and lost than never to have loved at all."

He recognizes that his brother is not equipped to study law, while failing to realize that he, himself, lacks the scholastic standing and financial resources to study medicine.

Y is aware of the main personality defect in X. She says, "I think X should make up his mind about what is going to do. I think he should work with something definite in mind." She extenuates his misrepresentation of himself in the following statement, "Sometimes he does not explain things fully, so they get the wrong impression."

One dominant strain in Y is her practicality. She phrases it in these terms, "I think if I were head over heels in love with him I could not let obstacles stand in the way of our marriage. As it is, I don't let my heart

rule my head." At the same time she is critical of her mother's opposition to their union. She says, "Mother has old world ideas about security. She can't see why I am willing to marry a man, and then struggle with him to success."

Her picture of her personality traits are as follows: "I make friends easily and I retain them. I'm overly sensitive. I like affection a great deal. I am very independent. Perhaps I am inclined to be a little too critical." This is the picture of X through the girl's eyes: "He has a fine sense of humor, he's a quiet person. He isn't particularly aggressive and he's very patient. He tries very hard to be understanding. He is considerate of me and I think he is very intelligent. We like to just talk to one another. He seems to have a very fine understanding. I might say that we both understand one another. There has been very little conflict in our relationship with one another. We have a sort of unquestioning faith in another....an almost telepathic relationship."

It is evident that she will dominate in the marriage quite as effectively as X and his father were dominated by his mother. She says, "Mother thinks I will be the dominant one. He depends on me for many things."

X himself recognizes that Y is like his mother: "Y and Mother are alike in being ambitious, making corrections in you! Both are aggressive and both get angry."

It is in point to note that all the four young men with whom Y went steadily before meeting X were all evidently of the even-tempered and submissive type. Her practicality is shown in breaking her relation with the young man who was excessively dominated by his mother.

She states, (his mother) "does not believe that he should have much of a personal life," but does not realize that she is not allowing him much of a personal life.

X recognizes that he was attracted to Y by her resemblance to his mother. "I was attracted to her because of resemblance to my mother; her walk, her smile, her ambition. She wasn't the type of beauty I had always admired, but character means more to me." He adds to this statement other evidence that indicates that Y functions much as his mother in encouraging his ambitions and his ideals. "She makes me aspire toward better things. She makes me cling to my ideals. She is in love with me for my ideals."

On her side X and her father are physically and temperamentally much alike. She says they are "dead ringers for each other." Both are "very patient and unselfish," "do not get angry suddenly or bear any grudges," both are

"stubborn," have "minds of their own," "reserved," and "respect for women."

This is an interesting case where the personality adjustment almost exactly duplicates the childhood relationship of X to his mother. This is, however, one which is both satisfying to X, but one against which he inwardly rebels. The marriage could then probably rate at no more than average under the best circumstances.

On the basis of this analysis it is doubtful if a marriage has yet taken place. According to immigrant mores the young man should have some economic security before marriage. The girl is practical and is likely to give heavy weight to prudential factors. The probabilities are much against any economic success for the young man which will approximate his ambition.

There is much in the material of this case that transcends in significance the individual items even in their aggregate as recorded on the schedule. The picture derived from the interview is of a young man repressed, corrected and improved by his mother compensating by words instead of deeds and marrying a girl predisposed to carry on the same rôle. All the other factors in the case are to be evaluated in the position relative to this dominant response factor which constitutes the dynamic axis of the interpersonal relation of X and Y.

Accordingly in marriage prediction from personal documents the essential stages of procedure appear to be as follows:

1. The analysis of the childhood response relation to parents and siblings to determine its structure and the satisfactions and dissatisfactions therein.
2. The comparison of the interpersonal relation of X and Y with this childhood response structure to determine likenesses and differences and to appraise the probable resulting satisfactions and dissatisfactions.
3. The systematic examination of the interaction of X and Y during the engagement period attempting to place their different types of interacts (to use Cottrell's term), temperamental, sexual, cultural and social, in their correct location relative to this controlling affectional axis.
4. The imaginative projection into marriage of this complex of interpersonal relationships and the attempt to estimate its increasing or decreasing strength, to locate the points of stress and strain, and to appraise their effect upon the happiness of the marriage.

Case-study procedure whether or not of the type just

described attempts to take fullest advantage of the two potentialities of the personal document, first, to obtain a conception of the case as a whole, as a configuration or system, and second to perceive it in all its individuality with an appreciation of the significance for prediction of its unique features.

Case-study is then essentially prediction for each individual case on the basis of the data available for that case. Certainly knowledge and insights from other cases will and should be utilized for its interpretation. But the distinctive value of the case-study is lost when dependence is placed upon classifying it under rulerics derived from the study of other cases and no effort is made with an open mind to appreciate and to appraise the significance of the individual patterning of the case actually under consideration.

The ultimate test of case-study as of statistical prediction is the correspondence between the predicted and the actual outcome. The question then becomes what kind of prediction is appropriate to the case-study method?

The predictions made in the seminars will be tested by outcomes measured in three different ways: (1) by the criterion of adjustment in marriage practically identical with that used previously by Burgess and Cottrell and by Terman (a criterion derived from answers to adjustment questions given after marriage), (2) by a criterion of adjustment as determined by interview data secured after marriage upon the fourteen factors entering into the complex of interpersonal relations (a rating procedure is used identical with that described above for the engagement period) and (3) by the correspondence between predicted and actual concrete adjustments in the marriages.

Experience with the analysis of interview documents seems to suggest that prediction of actual behavior in marriage is more practicable and significant than to forecast an adjustment score which is an artifact constructed out of the answers given by the couple to twenty-six questions. Accordingly, at present, our attention in the seminar is centering upon a short analysis of the dynamic factors and a summary of the prediction of behavior pertinent to marriage adjustment. The following statement contains rather specific predictions of the reactions of husband and wife in marriage.

SHORT ANALYSIS OF DYNAMIC FACTORS AND SUMMARY OF PREDICTIONS

Case 503

Y is the youngest child who was ten years younger than the youngest of her three older brothers. She states, "I was an only child psychologically."

Marriage reproduces for the girl her home atmosphere: confidential relation (though not too close) as with father and choleric and uncompromising personality of her mother. The ambivalence of her relation to her mother, great dependence upon her and great antagonism and irritation will be reflected in the marriage in her relation to her husband but to a lesser degree.

There is evidence of her desire to escape the family situation as illustrated by (a) her dream of being kidnapped, and father's and mother's collapse, (b) her persistence in relation with husband despite mother's opposition, and (c) her emphasis upon husband's need of her. One reason for marriage was "because he needs me."

During the year of residence in Chicago, it is predicted that relations with mother-in-law were strained. Even now, although 800 miles away, the prediction is made that the estrangement with mother is quite serious, although considerably minimized.

X is the second boy in a family of four boys and the favorite of the mother. He first planned on ministry and was active in church. He gets angry quickly, interpreting this in terms of his "Irish blood." He has had everything done for him. He is stubborn and uncompromising. Has the conventional point of view about wife as a girl who does not smoke or drink, and is a virgin. Y also holds these ideas strongly.

Personality clashes are likely to occur in marriage although he is quick-tempered and she is even-tempered. Her lack of punctuality will continue to irritate him. Clashes will come both from temperamental and ideological differences. Both are stubborn. He will dominate in the relationship but she will resist on certain points.

There is a difference in cultural levels. The husband has desire for a wife of superior culture, poise, and accomplishment, but her intellectual interests will irritate him at times.

Differences in attitudes toward Jews and Negroes will persist, but not give serious difficulty. She will feel the superiority of her own more scientific anthropological position.

Political differences will be resolved to acceptance of husband's viewpoint.

There will not be a child (barring accident) in first three years of marriage. Despite her alleged love of children and interest in child training, both have agreed not to have children until married five years. Besides, from her home background she has high standards of living that would not permit a child early in marriage.

There is fair sex adjustment probable, although perhaps with some complaint by each--she not desiring it as often as he.

Love of both will increase.

(During the interview both asked questions about the schedule to an unusual degree. Hers seemed in part, like only child's desire for attention.)

The data secured in the interview three years after marriage verified each one of these predictions. In other cases, however, concrete predictions do not correspond so closely with the predictions and the problem becomes one of accounting for the discrepancy. It seems easier to locate points of difference than it does to explain why with one couple these seem to have little or no bearing upon marital adjustment and with another couple to result in conflict and dissatisfaction.

In several of the cases analyzed in this period, we had interviews three years after marriage so that both the statistical and the case-study prediction were subjected to the test of the actual outcome. This made it possible to focus the questions in the marriage interview upon the crucial points that had come out in the discussion in the seminar group. In most cases it seemed that the points of friction already present in the engagement gave a basis of forecasting whether or not they would persist in marriage. In the first three years of marriage it does not appear that factors entirely outside of those present in engagement make their appearance. It may well turn out that from the practical standpoint of advising couples before marriage, the feasibility of predicting foci of conflict may be more important than either the statistical or the case-study prediction.

No summary of findings is as yet available upon the cases analyzed in the seminars. On the basis of general impression I do not expect any striking or conclusive findings. The great value of personal documents seems to inhere in their significance for understanding cases both in their totality and in their individuality. The path to translating these understandings into standardized or semi-standardized formulations is a difficult if not an impossible one.

Nevertheless, the discussion of cases in the seminars have been fruitful not only for understanding but for the raising of questions of fundamental importance for the methodology of prediction whether statistical or case-study. Among these are the following:

1. Couples differ in their reaction to marriage according to whether the criterion of success in marriage is

happiness, harmony, or satisfaction. This raises the question: should there be one or several criteria? If there is one criterion, which one should it be?

2. The question may be raised whether the criterion of success in marriage should be something by which couples could be more or less objectively compared with each other or to determine first what a particular couple wants out of marriage and then to find out how far this goal has been realized. This might turn out to be not what the couple wishes out of marriage, but what the husband and the wife each desires.

3. The last point raises a question of how the criterion of adjustment in marriage is to be measured. If it is desired, for instance, to take such criteria as closeness, interstimulation, temperamental compatibility, emotional interdependence, and integration, should one or all be the measure of success? Should this be determined by more or less objective indices upon items that are used as indicators or put in terms of subjective attitudes where the person is asked to give his own feeling about the relationship? The argument for the latter alternative is that it is both more valid and much easier to obtain.

4. A significant question is that of the validity of the numerical scheme not only in the assignment of weights to each item, but the assumptions that each item is of equal numerical value and that a total score summing the rating on each item is a satisfactory indicator of adjustment in engagement and marriage. There is no doubt that the scheme is based upon a shaky foundation. It is possible, of course, later when the adjustment in marriage is determined, to revise the weights given to individual factors on the basis of the associations shown with adjustment. The summation of weights in all likelihood, will have to be discarded in the future and reliance put upon the pattern of significant factors.

5. There is no doubt that the present series of factors is too concrete and common sense for permanent and more refined case-study analysis. There are rather evident indications that there are essentially perhaps at least two basic factors in marital adjustment. They are: interaction of the couple on a psychogenic basis and upon a cultural basis. It may be feasible later to devise a satisfactory system of analysis of interpersonal relations that will take into account these two rather fundamentally different modes of personal interaction and the surface expression in various concrete ways of these two types of interaction in marriage.

In conclusion it may be stated that the case-study seminars have raised more questions than they have answered; but experience, however, does seem to demonstrate the distinctive value for prediction of case-study materials even at a rather low intellectual level of analysis. It is evident that there are possibilities of their analysis at much higher levels of sophistication. It seems also demonstrated that rough comparability of ratings may be secured. It still remains, of course, to be proven whether a scientific method of analyzing factors will be superior, or even equal, to the intuitions of persons gifted with deep understanding of human nature. Nor has it yet been determined what is the most fruitful way in which statistical and case-study prediction may be used in order to complement each other.

NOTES ON THE CASE-STUDY AND THE UNIQUE CASE

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A perennial controversy in the social and psychological sciences is that between advocates of statistics and advocates of the case-study method. Although nobody disputes the importance of the case-study as a procedure for getting new ideas, some statisticians unfortunately fail to recognize adequately the importance of the case-study as a procedure for making direct predictions about the behavior of an individual. This lack of recognition may be due partly to the fact that those who have undergone a rigorous discipline in quantitative methods develop a bias against the loose and sometimes pretentious vocabulary so often used by exponents of the case-study, as well as against the tendency of some of these exponents to lay claims to certainty of prediction which are unsupported by either logic or empirical evidence. The same charge of making extravagant claims is laid at the door of the statisticians by experts in the use of the case-method.

Perhaps we can get to the heart of the difficulty if we examine the concept of the unique case. The case-study procedure makes a prediction, it is said, by "analyzing the unique dynamic configuration of traits within the individual."

WHAT IS A CONFIGURATION?

Suppose that we want to predict success in some activity for a given individual named Smith. For simplicity, let us assume that we can rate Smith as of two separate time periods, with respect to three behavior items, each of which is described in four mutually exclusive categories, qualitative or quantitative, as follows:

	<u>Time t</u>	<u>Time t'</u>
Trait a	$a_1 a_2 a_3 a_4$	$a'_1 a'_2 a'_3 a'_4$
Trait b	$b_1 b_2 b_3 b_4$	$b'_1 b'_2 b'_3 b'_4$
Trait c	$c_1 c_2 c_3 c_4$	$c'_1 c'_2 c'_3 c'_4$

Let the underlined symbols indicate the ratings for Smith. They tell us that at time t his trait configuration was $a_2b_1c_4$; at time t' it was $a_3b_1c_3$.

Although $a_2b_1c_4$ are reported as of a single time interval t , the pattern actually may represent sequences within that time interval, e.g., a_2b_1 may be followed by c_4 . Similarly, within the time interval t' , a_1b_1 may be followed by c_3 . The notation here is intended to be quite general. For example, a_2b_1 may represent Smith's report that b_1 is an "effect" of a_2 , or may represent the investigator's inference that b_1 is an "effect" of a_2 . It must be remembered that such a report or recorded inference, even if subject to error, may be a datum which can be treated either by the statistician or the case history investigator just like any other item for predicting Smith's success in an activity. An excellent discussion of this point, with many practical suggestions for research, appears in a manuscript by Paul F. Lazarsfeld not yet published, entitled, "The Art of Asking Why."

Consider a single cross-section in time, for example, time t . The number of possible static configurations of the kind $a_2b_1c_4$ is $4^3 = 64$. If ten traits were to be considered simultaneously the number of configurations would be $4^{10} = 1,048,576$.

Next, consider an individual's rating on a single trait in the two time periods as constituting a simple dynamic configuration. Smith's simple dynamic configuration with respect to trait a would be a_2a_3 . The number of possible simple dynamic configurations with respect to any specified trait is $4^2 = 16$.

Finally, let us consider Smith's ratings on all three traits in both time periods as constituting a single complex dynamic configuration. Smith's complex dynamic configuration is $a_2a_3b_1b_3c_4c_3$. Such a configuration might be illustrated by the fragment of a case history. Before Smith was married he got into fast company (a_2) and drank heavily (b_1) and, perhaps because of drink, had great difficulty holding a job (c_4). Since marriage he has given up the fast company (a_3) although he still drinks too much (b_3), and, consequently perhaps, has been having some, though less, difficulty in holding his job (c_3). The number of possible complex dynamic configurations of this type $(4^3)^2 = 64^2 = 4096$. If there were ten traits, the number of possible complex dynamic configurations would be $(4^{10})^2 = (1,048,576)^2 = 1,099,511,627,776$.

With such an astronomically large number of different complex dynamic configurations possible from a relatively

small number of trait categories and with only two time periods, it is evident how easy it is to make classifications which put every individual in the world in a different configuration. (This is the general principle, of course, by which a small number of traits are used, in configurational analysis, to identify an individual from his fingerprints.)

Now, our problem is, knowing Smith's pattern $a_2a_3^1$, $b_1b_1^1$, $c_4c_3^1$, etc., how can we predict his success or failure in a given activity?

It will be instructive to compare and contrast the approaches by the statistician and case-study investigator, respectively, to this problem. Consider, first, the statistician:

HOW THE STATISTICIAN PREDICTS

If the number of possible configurations is small and the sample of individuals is very large, such that numerous individuals are characterized by a common configuration, the statistician's task is simple. All he needs to do is to observe the proportion of successes among those characterized by each given configuration and to make a direct actuarial prediction. For example, for trait a there are only 16 possible simple dynamic configurations involving one subcategory in each of the two time periods. Let us assume that out of 100 individuals with $a_2a_3^1$, 80 succeed in a given activity and 20 fail. Then the best actuarial prediction which can be made for Smith on the basis of trait a alone is that he will succeed. The statistician would expect to be correct about 80 percent of the time on such predictions and wrong about 20 percent of the time, the exact percentage of correct predictions being subject to sampling error.

Direct applications of this method breaks down, however, when the number of possible configurations becomes so large that no sample is large enough to provide an experience table. Thus, even a very large sample may not yield a single example of an individual who is characterized by a particular complex dynamic configuration, out of a possible 4096, such as $a_2a_3^1b_1b_1^1c_4c_3^1$. Hence, when confronted with Smith, who is characterized by this pattern, the statistician ordinarily is helpless unless he can recombine various configurations in such a way as to get a small number of groups in which a sufficient number of individuals will fall.

There are a great many methods by which the statistician can make these recombinations. Only a few examples will be mentioned.

One method might be to make a direct typological reduction. Thus he might reduce the number of configurations by cutting each trait to two categories:

	<u>Time t</u>	<u>Time t'</u>
Trait a	$A_1 A_2$	$A'_1 A'_2$
Trait b	$B_1 B_2$	$B'_1 B'_2$
Trait c	$C_1 C_2$	$C'_1 C'_2$

This yields the investigator only 64 types of complex dynamic configurations with which to work. Or he might simplify still further by treating $B_1 C_1$ and $B_2 C_1$ as members of the same class $(BC)_1$ and $B_1 C_2$ and $B_2 C_2$ as members of another class $(BC)_2$ in time t, and by using similar groupings for time t'. Then he gets

	<u>Time t</u>		<u>Time t'</u>	
Trait a	A_1	A_2	A'_1	A'_2
	$(BC)_1$	$(BC)_2$	$(BC)'_1$	$(BC)'_2$

or only 16 types of complex dynamic configurations. It will be noted that the relationship of the type $A_1 A'_1 (BC)_1 (BC)'_1$ has precisely the same general structure as the relationship from which it was derived, except for a sacrifice of detail. With only 16 types, the statistician is able to observe enough individuals in each type to acquire data for direct actuarial prediction. Much information about Smith was lost in order to make this prediction possible. A factor analysis of some sort might provide a method of typological reduction with a minimum loss of information.

A different procedure, relatively new to most statisticians, is the use of the discriminant function, by which a frequency distribution of prediction scores is worked out for the successful individuals in the trial sample and another frequency distribution of prediction scores is worked out for the unsuccessful individuals. The method would assign weights to the subcategories of traits at each time period in such a way as to maximize the difference between the means of the two frequency distributions. By referring to these two distributions, the likelihood that a person who possesses a given prediction score will be successful can be determined. If Smith has that score, an actuarial forecast can be made for him on the basis of the sample experience.

Much more common is the statistical procedure of assigning arbitrary or item-analysis weights to each subcategory

and computing by simple addition a prediction score for each individual in the trial sample. All individuals whose prediction scores fall in the same class interval are treated alike, regardless of the different configurations which they may possess. (The time factor might be handled in various ways, for example, by treating the direction of change in each item as a separate item with its own set of weights.) If 75 out of 100 whose prediction scores fall in the same class interval succeeded, and if Smith's prediction score falls into that class interval, the usual actuarial prediction can be made. This is the method used in parole prediction.

These statistical procedures have in common the operation involving a sacrifice of information about the individual configurations. This sacrifice is made in order to obtain broad enough classes to assure an adequate number of cases from the trial sample in each class. It is an artifact to treat thousands of different configurations as belonging to a single class, supposedly homogeneous. If the classes are too broad and too heterogeneous, the statistician will make many bad guesses.

HOW THE CASE-STUDY INVESTIGATOR PREDICTS

Let us turn now to the case-study investigator who is confronted with a dynamic configuration $a_2a_3'b_1b_1'c_4c_3'$ for Smith. Like the statistician, he may possess no experience about the success and failure of others in this one out of thousands of possible configurations.

He may, and frequently actually does, operate much as the statistician operates, by making typological reduction; or by mentally assigning informal predictive weights on various traits separately, which weights he combines in some informal way. If he lacks the numerical information from the trial sample which the statistician requires, he makes up for the lack by assuming some value out of his general experience. The outcome is an actuarial prediction, of necessity less accurate on the average than would have been possible if numerical experience tables were available.

While this description perhaps characterizes fairly well certain of the operations performed by the case-study investigator, it is far from adequate. Statisticians who criticize the case method because of pretentious claims made for its accuracy are likely to be thinking of such a description or are overlooking another operation which is also frequently performed.

The additional operation is one which the case-study investigator can perform because of the extreme flexibility available to him as contrasted with the rigidity of the statistical framework. This flexibility enables the case-study investigator to economize by seeking out a limited number of traits which seem important for Smith and by analyzing them intensively while ignoring other traits. True, the statistician can and does ignore traits (one way he does it is to give the traits zero values for Smith). But the case-study investigator can do what the statistician cannot do, namely, concentrate on an intensive, detailed, free-flowing analysis of the configuration of the limited number of traits which he thinks is important in Smith. Moreover, he is not bound by any prior list of traits but can add others freely. Thus, he might decide to ignore traits b and b' and c and c' entirely for Smith, but consider d and d' . Or he might get a detailed developmental history of Smith, introducing observations on additional time periods, represented by a'' and d'' in time t'' and by a''' and d''' in time t''' . Thus Smith's complex dynamic configuration may be represented by his behavior over several time intervals. In the first time interval the contribution to the configuration may be a_2d_1 , in the second $a_3'd_2'$, in the third $a_3''d_2''$, and in the fourth $a_3'''d_3'''$.

The investigator must now predict Smith's success. If he is familiar with other configurations somewhat like Smith's and knows how they turned out, he will apply this knowledge to Smith. Such a prediction is, of course, not only implicitly actuarial but is likely to be subject to gross error. If the investigator is not familiar with any other configurations remotely resembling Smith's he probably is as helpless as the statistician in the same situation, unless--note the reservation--unless the time series on Smith alone is of a very special kind. Specifically, the sequence of observations on Smith must contain information on Smith's success at one or more points of time in activities resembling that for which a prediction is to be made. Thus, if at time t , when Smith's behavior pattern or trait pattern was a_2d_1 , he was a success in an activity similar to that being predicted, and if at time t' , when his pattern was $a_3'd_2'$, he also was a success--in fact, if he always seemed to be a success--there ordinarily would be considerable confidence that he would succeed again. It should be carefully noted, however, that, even in this favorable circumstance, prediction can not be made with complete certainty, for the following reasons:

(1) The assumption that the new situation is analogous is subject to various kinds of error.

(2) The assumption (often not explicit, but necessarily present) that it is the general rule that people who succeed in past situations will continue to succeed, does not refer to an invariable sociological law, because none has been demonstrated. It refers rather to a hypothesis, which, if carefully studied, would be found to have exceptions--hence, to be a "law" of an actuarial character.

If the second point above be questioned, and there may be some who would question it, one can make the point clearer, perhaps, by another example. Suppose, when Smith had configuration a_1d_1 at time t , that he failed in an activity, as also when he had the configuration a_2d_2 at time t' . But suppose he was successful at t'' and t''' . The prediction may now be that he will succeed, on the implied, if not specified, assumption that people who are improving will succeed in the future. The language of common sense is full of such usages, sometimes making an explicit recognition of the general relationship, as when we say "I think he'll grow out of those bad habits as he gets older; folks usually do."

One reason why some case-study investigators have difficulty recognizing the point that a projection of an intra-individual trend implies a reference to a general relationship is that they sometimes phrase their forecast in more complicated language than that used above. For example, they do not say simply, "Smith is improving; therefore he will succeed," but they say, "Smith has been improving, and he now is characterized by a behavior pattern $a_3'''d_3'''$, which makes for success, as compared with his earlier behavior pattern a_2d_1 , which made for failure." But how does the investigator know that " $a_3'''d_3'''$ makes for success" and that " a_2d_1 makes for failure"? He can not know, unless he has had experience with persons whose configuration was similar to $a_3'''d_3'''$ and to a_2d_1 . If he is using that experience, he is making an explicit actuarial reference, and without adequate data if these configurations are rare.

Even when the prediction for Smith is made solely on his individual time sequence, the ultimate test is a statistical one and can be made empirically. The test is not for Smith as an individual but as a random member of a class of individuals concerning whom the investigator makes predictions with about the same feeling of confidence. If the investigator has felt about the same confidence in 50 previous cases as in Smith's case and has been correct 40 times, the best actuarial forecast is that he is correct about Smith, but, of course, Smith may become one of his mistakes and this can not be known in advance.

Let us summarize the operation on Smith of the case-study investigator. Many times his operations are the same as those of the statistician--for example, he may use typological reduction or he may relate certain traits of Smith to his past experience with other cases. Unlike the statistician, he is free to concentrate intensively on variates or configurations he thinks important in Smith and to explore, at will, especially taking advantage of cues from repetitions or sequences in Smith's success and failure experience over time. If Smith's dynamic configuration can not be compared in whole or in part with that of other individuals whose success or failure is known, the investigator must obtain this special kind of time sequence--record of success and failure--or he is helpless. Even if the investigator secures this unique time sequence of success and failure of Smith, the ultimate forecast depends in part on the correctness of whatever general theory is implicit in the projection of the trend.

CONCLUDING REMARKS

Although the trend is to replace many case-study operations by quantitative techniques easy to administer, especially when prediction must be made quickly for a large number of individuals, the case-study is likely to continue to be a useful--often indispensable--supplement to the work of the statistician, even in situations where the value of the statistician's methods is most obvious. If the case method were not effective, life insurance companies hardly would use it as they do in supplementing their actuarial tables by a medical examination of the applicant in order to narrow their risks. Its great virtue in direct prediction is its flexibility, permitting an intensive study of the configuration of selected factors in a time setting.

No detailed comments are needed about the important contribution of the case-study procedure as a fruitful source of new ideas, which can be eventually set up as hypotheses for explicit statistical checking. Few statisticians, if any, will dispute that function of the case-study. In conclusion, however, at least one point should be made to indicate how one of the principal present advantages of the case method could also be better utilized by the statistician. The case method, as has been emphasized, often relies heavily on information about an individual's record of success or failure in situations analogous to that about which a prediction is to be made. There is no reason, of course, why such a record should not be an explicit

entry as one of the predictive items in a formal statistical analysis. Sometimes it is. In parole studies, past record of recidivism becomes one of the most powerful predictive items. The case-study has no monopoly on the use of such time trends, and still greater use of such information, together with that of typologies which are dynamic in that they indicate sequences or connections in time, should improve statistical prediction.

The statistician and the case-study investigator can make mutual gains if they will quit quarreling with each other and begin borrowing from each other.

THE CASE-STUDY METHOD IN PREDICTION

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I do not conceive the purpose of this paper to carry on the discussion of the relative merits of case-study versus statistical methods for analysis and prediction in the field of social behavior. Nor do I see the utility of attempting at this time to demonstrate further qualitative differences inherent in the two methods, for I am in substantial agreement with Stouffer's excellent logical synthesis of what most of us have understood to be two different operations. Rather it is my purpose to point to certain shifts in orientation which now appear to me to be necessary for users of both methods. This shift, it should be added, is rapidly taking place.¹ It should be further added that the shift is taking place and should take place in case-study methods first. Such changes will sooner or later probably require modification in measurement and statistical procedures. If the presentation in this paper appears dogmatic it is due primarily to efforts at condensation and not to any finality of conviction on the questions involved. It is hoped that the discussion of the ideas presented will yield more valid conceptions and a more tenable perspective on the problem.

I. THE "INTERACT SITUATION" RATHER THAN THE INDIVIDUAL OR TRAIT AS A UNIT OF DESCRIPTION AND ANALYSIS IN SOCIAL PSYCHOLOGY

In my opinion, users of what are termed case-study methods should make the situation a unit of description and analysis if these methods are to make maximum contributions to our ability to predict human behavior. The term situation

¹See L. S. Cottrell, Jr. and Ruth Gallagher, "Important Developments in American Social Psychology During the Past Decade," *Sociometry*, Vol. 4, Nos. 2 and 3 (May and August) 1941 for a statement of the main currents of change in contemporary social psychology.

is widely as well as loosely used. The fact that it is ambiguously used and never explicitly defined may be taken as evidence that our habitual focus of attention has been on individual persons and their alleged traits rather than on interact units of observation and description. I mean here by situation a reciprocally related system of social selves. A social situation is always constituted in such a way that the behavior of any part of it can be understood only by taking into account that part's relation to the rest of the system. This is a very crude definition and is only approximate. A social situation is as hard to define as is an historical event. Theoretically and logically the whole world might constitute a social situation and in some ways it does. But many of the interrelationships among the parts become so attenuated that for most practical purposes we can ignore them. It should be noted that a situation or a situational context is a perspective bound conception. That is to say a situational field can only be perceived and described from one position or rôle perspective at a time. Each member of the situation is responding to it not as seen by some master mind above and outside the situation but as he perceives it. It should also be noted that situational fields vary in size, duration, and frequency of repetition. Situations as the term is used here may be interpersonal, intrapersonal, inter- and intragroup. Terms at present in the service of description, analysis and interpretation such as wishes, drives, traits, etc., which individuals are supposed to have indicate the habit of explaining behavior by ascribing it to attributes possessed by the individual rather than by regarding it as a function of position in an interact system. Words like wish, drive, etc., do not stand for independent entities but acts involving counter acts, incompleting or resisted movements. There is no wish without blockage or drive without something to drive toward or against. Try to have the experience of pushing without having something which resists the push or of wishing in the midst of gratification. Or try to manifest a trait of aggressiveness without an imaginary projected or actually present counteractor to your aggression. Such attempts should lead to a realization that the behavioral components we tend to speak of as attributes more or less independently possessed by individuals are actually relational functions.

Now, lest I be accused of boxing with straw men, I should state my awareness of the fact that this is old and much traversed territory. Moreover I know that attribute theorists will say, "Of course we know that traits named are only names; they stand for dynamic interact processes." That is fine; I am

glad they know it, but I can not escape the disconcerting feeling that having dismissed my questioning with such an answer, they then proceed to construct instruments, develop theories, analyze and interpret behavior in attribute-terms and to measure characteristics "belonging" to individuals quite thoroughly abstracted from any specified interact contexts. To assist in maintaining such oblivion, there is the tendency to give a certain lip service to "the situation." We talk about "the general situation," the "family situation," the "community situation" quite glibly without anything like sufficiently attentive analysis and specifications of the interact pattern we refer to. Our correlations of traits with "environmental factors" is usually naive and without any conception of the significance of what we are trying to do in terms of situational analysis. We set up devices for measuring attitudes which reveal our basic assumptions about having attitudes in a vacuum. Of course we all insist we can have attitudes only toward something. But then we proceed to make that something a static reified something without reference to its rôle in a specified context.

Our language reflects our essential thought processes, and it is interesting to note the difficulties we encounter and the clumsiness we show in trying to describe an interact situation. Statistical language and theory in its social psychological applications is pointed primarily to an individual attribute rather than an interact context description and analysis. I do not intend to suggest by this that statistics is inherently limited to the attribute frame of reference; on the contrary, it is no more limited than any other language form. But in its present state it reflects our basic orientation to the problem of explaining social behavior.

With respect to language difficulties, it is my opinion that attribute descriptions of social behavior can rather readily be translated into interact context terms with a considerable gain in clarity and precision for such description. But for such translations to be more than a verbal game a genuine shift in frames of reference must be achieved.

Now what has all this to do with prediction and particularly prediction by case-study methods? In my opinion it has a great deal to do with prediction. The usual way prediction problems have been posed in social psychology is as follows. Some criterion is set up which is the standard by which behavior is judged to be "successful" or not. Individual attributes, skills, and performances are then weighted in accordance with their correlations with the criteria. Composite scoring of the predictive items then serves as an index placing

the individual in a class with some determined probability of success.

In the first place I think we need to go further than we have in distinguishing between predictions of specific behavior on the one hand and judgments or evaluations or degrees of success according to some standard or other. It is one thing to predict how a couple will perform in a situation developing around the use of money and another to judge the contribution these behaviors make to a "successful adjustment."

The foregoing suggestion now opens a way to the added suggestion that in my opinion our predictive items must have reference to a specified type of interact context and our predictions must be made with respect to a specified situation. When I say specified I wish to make the requirement as rigorous as possible. I do not mean that we specify the situations by referring vaguely to "the marriage situation" or "the office situation" or the "factory situation." I mean in each case the particular rôle composition that furnishes the interact context in which the person whose behavior is predicted is to be placed. Needless to say, this specificity has not thus far been approximated in social psychological prediction procedures.

This suggests a need for (1) developing adequate and convenient ways of describing situations; and, (2) a system of classification of the main types of situational contexts for various areas of social life in which predictions are to be made. I have elsewhere made specific suggestions for research projects in this connection.² Some of these suggestions are added here to make more concrete what I have in mind.

SUGGESTIONS MADE TO HORST AND WALLIN

"There is a need for exploring the problems suggested by the following questions:

1. Is it possible to classify the concrete interpersonal relationships in which social activity takes place into a limited number of types?
2. What will be the utility of this kind of classification for prediction?

Elsewhere in this work we have pointed to the

²These suggestions were made to Paul Horst and Paul Wallin for their sections on suggestions for research in the forthcoming S.S.R.C. monograph on prediction of social adjustment. I do not know how much of the suggestion was used.

need for a comprehensive attempt to identify the basic human traits and abilities in terms of which personalities could be unambiguously described. However, social behavior does not occur in a vacuum but always in some interact context. Hence in order to utilize knowledge about individual tendencies and abilities an understanding of the context in which they are manifested is indispensable. Indeed it is impossible to discuss individual characteristics except as components of an interrelated system of activity.

With reference to problems of prediction, it can be safely asserted that predictions are always made with reference to some type of context, though many such references are ambiguous and implicit. It is our contention that the more explicitly the prediction is referred to a specified context the more accurate the prediction is likely to be.

For these reasons we propose that an attempt be made to identify the major types of social situations. Little attention has been given to this problem by research workers, and except for some suggestive leads from theorists like Georg Simmel, von Wiese, and others, there is little previous systematic research work to use as a point of departure.

A number of lines for exploration suggest themselves. Four that offer some promise are mentioned here.

1. The materials assembled by the Cross Cultural Survey at the Institute of Human Relations, Yale University, offer an excellent opportunity to make a survey of the different patterns of interpersonal relations which have been seized upon and formalized by a wide variety of cultures. It is quite possible that a multiple factor analysis of certain of these materials may furnish leads for establishing a basis of classification.

2. Sociologists, psychologists, psychiatrists and others have accumulated a large number of personal documents in which there is a great deal of descriptive material about the kinds of social situations in which the individual has lived. For the most part these documents have been studied with a focus of attention on the characteristics of the individual. A good deal of this type of material should be analyzed with the focus of attention on the situational patterns explicitly and implicitly defined in the document.

3. J. L. Moreno has developed methods for research and therapy which involve verbal, graphic and dramatic portrayal of social situations. The use of his methods should prove highly valuable in the type of research

suggested here. It is quite possible that a study of Dr. Moreno's materials accumulated from past work could be used in conjunction with the attempt to classify types of interpersonal situations from the documentary material suggested in 2.

4. A factor analysis of words used to describe concrete social situations might yield some valuable suggestions for bases of classification, particularly if this analysis is paralleled by less formal studies of situational description. The classifications derived from the less formal procedures could then be compared with the clusters produced by the factor procedures.

Some valuable results of these and similar exploratory research efforts might be:

(1) Preliminary answers to the question of whether or not types of situational patterns emerge from such efforts.

(2) A development of clearer and more standardized ways of describing interpersonal situations. Most descriptions now are ambiguous and haphazard. This condition necessarily handicaps efforts to achieve specificity and clarity in describing personality, as well as situations, to say nothing of making specific predictions.

(3) Such research should serve to demonstrate the feasibility and utility of situational description.

(4) If the foregoing expectations are even partially realized, they may stimulate work in the direction of predicting situational changes."

This discussion of the importance of a situational or interact unit rather than an individual unit has relevance for the consideration of the case-study in prediction on at least two counts.

1. It is through a knowledge of how the person consciously and unconsciously perceives (structures or defines) the major types of situations in his life activity that we gain a maximum predictive power. This knowledge is gained through an intensive analysis of the person's important incorporated self-other patterns, their genesis and intrapersonal organization. Since these patterns and their interrelations tend to be unique in many aspects, we are confronted with the condition suggested by Stouffer in his note on the statistical theory of the unique case. Since present statistical methods are not yet flexible enough nor our information on a large number of personality systems adequate enough for the application of statistical methods, we must necessarily rely on case-study procedure.

2. The burden of developing a solid basis of experience in describing and analyzing interact behavior and of developing fruitful hypotheses as well as developing a much needed descriptive terminology will obviously rest on flexible procedures that allow highly unique as well as complex processes to be considered without requiring a large number of instances on which to operate. This again points to the case-study method as a necessary part of our research efforts in social psychology at this juncture.

II. THEORY OF PERSONALITY REQUIRED BY SITUATIONAL ANALYSIS

All of this talk about the situation as a unit does not enable us to avoid studying the individual actor nor to minimize the importance of such study. It does, however, require that we have a theory of the individual personality consistent with the findings of situational analyses.

The insights and formulations of Baldwin, Cooley, and Mead, about the nature of the human personality have never been fully exploited for implicit as well as explicit contributions to our understanding of the processes of personality development and organization, the processes of interaction and communication, of how we "know" another person, the nature of collective unity and disintegration, and other important social psychological phenomena. In a sense, modern social psychology is just beginning to catch up with the ideas developed by these men.

This is not the place to attempt an elaboration of an interactional theory of personality. It will be sufficient for our present discussion simply to say that the conception of the incorporation of the acts of the other as well as of the self--the importation of the social act--is of central importance. This process is perhaps basic to all social integration.

We are interested here in pointing out that the human organism going through this process gets equipped with a system of self-other patterns. The acts of the others are just as truly present (represented as expectational attitudes or incipient act tendencies) as the response mobilization identified as the self-behavior. The two parts are inseparable segments of one process. This means that if we can determine the self-other or response-expectation pattern of a person, we know how he will tend to perceive, or structure, or define a situation involving others in different areas of activity. We are then in

position to be precise and specific in prediction about what he will tend to see and the position he will tend to occupy in the situation as he perceives it. Another important possible increase in predictive power is involved in the fact that the importation process makes it possible for the self-"location" to shift from the position of the present self to that of the other or others in the social act. This happens under certain conditions. When we know more about the determinants of "center of gravity" of self-other systems we shall be in position to make predictive statements about conditions under which profound shifts in self-behavior may be expected and what those shifts are likely to be.

III. DISTINCTIVE METHODS OF THE CASE-STUDY

The study of a case involves the use of the observer's personality as an instrument of observation of an ongoing series of interacts. This is particularly true where the case-study includes personal contact. When the study is limited to documentary materials, the essential processes involved in case analysis are obviously reduced.

The question then is what is this method by which one comes to "know" a person? I suppose it is fair to state that this knowing means an ability to state the way in which he will view his life situations (his point of view), how he came to have such perceptions (genesis) and what his attitudes and overt responses are most likely to be under specified circumstances (prediction). It may be pointed out that this is a kind of knowing found in friendship and family relations though in most cases overlaid with highly stereotyped self-other patterns. Now pointing to the similarities between knowledge of a case and of a friend does not necessarily add to our understanding of the processes involved. I indicate the partial³ similarity merely to suggest the fact that an observer-subject relation is a social interaction not too unlike many other social relations, and to suggest that if we understand the processes of social interaction involved in what I have called incorporation of self-other

³The differences are of course also important. In friendship relations, the values and the maintenance of the relations are in the focus of awareness. The understanding gained is incidental and frequently not entirely conscious. Much of the time we neither know nor care how much we "know" about our friend. In the case analysis the focus of attention is on the very things that are incidental in the friendship.

patterns, we may more deliberately and with greater precision use these processes for the study of cases and for predicting their behavior in specified interact fields.

Obviously these statements point to the assertion that the distinctive method of the case-study involves the conscious and skillful use of the incorporative or role-taking processes which go on most fully in the more intimate interpersonal relationships. This is sometimes referred to in terms of varying ambiguity as sympathetic introspection, empathetic introspection, identification-projection, analysis of transference, etc. Ambiguous though these terms be, they need not be given up as referring to permanently mysterious and unanalyzable intuitional processes. The task is to become more alert and aware of our own processes, more skillful in placing ourselves in the act positions of others in the case-study interrelations and more explicit in stating to ourselves and others what goes on. With such sharpening of our wits and sensitivities, we should not only become more capable as case analysts but should achieve more of a consensus on the difficult questions of the validity of the procedure.

When a charming young woman comes in with many problems and after the preliminary interview states how much better she feels; that she knows I will show her the way out of her difficulties; that she wishes she had come in sooner, etc., etc., I may experience an inner glow at being a hero and helping an attractive lady in distress. If my registry of the situation stops there I am indeed naive and not using good case-study skill. Moreover, if I do help the lady it will be by a fortunate accident rather than by a self-consciously used skill. I should, from the very start, attempt to get her perspective on me. What is her "structuring of the situation" involving the two of us? What is her self-conception and conception of me? From what I know of her past, if I had been in her rôle and had said and acted as she did, how would I have conceived the interviewer and my relation to him? Her words might have signified a great relief at finding someone at last who would take responsibility for making important decisions for her and "tell her what she ought to do." They might have meant that she had now found someone who could be used as a cat's-paw to lay down the law to her husband, parents, etc. They may have meant that she wished to be loved and was trying to be pleasant and attractive. They might have meant strong hostile aggressions which were overlaid by a veneer of "sweetness and light." They might have meant an honest satisfaction in finding a relationship in which she would have help and an opportunity to discover the sources of her difficulties and learn ways

of solving them. These and many other tentative formulations of the situation I arrive at by taking her possible rôles and indicating to myself the possible definitions of the situation in which her behavior in our relationship will have meaning. I can not afford to take one definition and throw the other possibilities out until much more of her attitudes and behavior have been experienced and tested by this process. If I learn that she can't stand her father on account of his unreasonable and overbearing behavior; that she separated from her husband because of his foolish insistence on having his own way; and that she is now having a feud with her school principal because he is jealous of her superior knowledge about how to run a school --I may continue to consider as one of her possible structurings of the situation a simple positive dependent relation on a benevolent rescuing hero. But I will keep more than one eye on the possibility that I may be a target for a lot of destructive aggression against men. Whatever this structuring may turn out to be, it must be clearly seen by the observer and gradually made clear to the subject in order to give her an understanding of the situation and her position in it. Through such an analysis and understanding she can come to a clear realization of the meaning of her attitudes and actions in similarly structured situations.

This same rôle taking process takes place in trying to understand past or present non-interview situations. Jones tells of his domestic woes. If I should say as sincerely as he does what he says about his wife, I could not escape seeing her as a monster. Yet in my capacity as Jones I find I still live with this she-devil. In my Jones rôle supplied by his lengthy and vivid report, I lived through a crisis in which I mustered courage to leave her. After I left her I was lonely and "lost." I came back. I was very crestfallen but still angry and put on a front. I told her I was only coming back on account of my duty to the children. However, I remember dreaming that night that I was on a journey--a dark night, a strange road, and I was lost. I walked and walked and came to a house in a dark woods all lighted up and warm. There was good food. There was still the fear of the dark woods but inside the house I felt at home and comfortable. (One of his terms of endearment was "light of my life"). As I live through more and more of Mr. and Mrs. Jones's experiences I am able to get a firm grasp of the two or more self-other patterns in which their behavior is cast and in which it becomes intelligible. When I am able to communicate this perception of the actual ongoing situation and the rôles of the two people in them, their own behavior,

attitudes, and resentments are more intelligible to them, since they are seen now as functional parts of the rôles they are playing in the actual situation rather than in the stereotyped relationships in which they are seeking to function as husband and wife.

Note that I do not seek to determine what kind of man Jones is in the sense of what amounts of specified attributes he possesses. I seek to delineate the expectancy-response patterns with which he operates in the situations studied. When these patterns and their development are clear, we should be in position to make reasonably precise predictions about Jones's tendencies in specified contexts. As I understand Moreno's psychodramatic procedures, he is doing the kind of analysis I am suggesting by using actual dramatic representations of situations, using actual persons as auxiliary egos. His efforts in this direction should be extremely valuable in testing the validity and utility of situational analyses. Unfortunately, so far as I know, there is yet no systematic check on the accuracy of prediction made by deliberate, clear-cut and skillful use of the procedures I am suggesting. My own experience, the work of J. L. Moreno, H. S. Sullivan, W. L. Warner, and others who represent the trend to situational as over against attribute analysis all lead me to be optimistic about the possibilities of this approach.

In addition to the difficulties in achieving precision and quantification, of "attribute" habits of thinking, and of the lack of a "situational language," there is one great difficulty inherent in this method. I refer to the opportunity for unconscious projection of the observer's own self-other (expectancy-response) patterns on to his cases. Two observations should be made here. One is that objectivity as we have ordinarily conceived of it undergoes considerable modification when one uses the method of rôle taking. One does not get his data by being detached. He is implicated in a social act and plays as real a part in it as the subject. It is only by reading the impact of the action on his own personality system that he is able to analyze what is happening. True detachment and "objectivity" in the old sense cannot yield the knowledge we need about human relationship. At the same time a case analyst must achieve a disciplined observer rôle that can take account of what is going on without being completely submerged in the part he is playing in the situation. This is a difficult accomplishment, and I suspect that Moreno's dramatic procedures may be necessary in difficult cases. Present training for use of case-study methods appears haphazard and for the most part naive as compared with the rigorous discipline and self-knowledge which the above requirement indicates.

A second observation is that projection actually does take place and is unavoidable. The more clearly this is recognized the safer and more valid the method is likely to become. What seems to happen to me in the soundings I make trying to get the subject's structuring of the situation is that I seek to place myself in the situation described by the subject and to construct what I would see if I behaved as he did or said he did. The self with its perspective of expectations which I find emerging I then, so to speak, "accuse him of being" or I "try on" him. In other words, I project on to him what I experience. I need to be exceedingly careful not to become so convinced of this self, so satisfied and secure with it because it is so intelligible--such a good hypothesis--that I am blinded to the poor fit when I try it on the victim. What happens is that I try to partially identify myself with the case in a specified situation; I take a reading of what happens to the identified me in conception of self and expectancies of others. This frame I then try on the case. If it seems to account for most of the attitudes and behavior and, most important, if it enables me to predict accurately for similar situational events in his experience, past or future, then I am fairly certain of the results of my identification-projection. If the fit is poor, I must identify and project again. From this it will be seen that prediction is an essential part of the method and not merely a desirable end result. It is an essential part of an operational statement of the identification-projection or empathetic introspective method.

I have stated what I consider the most distinctive method in case-study analysis. I do not mean to imply that all case-studies are done with this method. (I would suspect that most of those engaged in research and therapeutic work requiring them to work with individual cases would question the accuracy of the foregoing statement.)

Much of the study of cases is aimed at isolating syndromes and typical personality patterns which experience has shown to be correlated with certain resulting behavior, problems in adjustment, success or failure in some activity, or what not. This process requires knowledge of symptomology and experience in case diagnosis, but ordinarily does not require the degree of empathetic skill which the procedures I discussed above require. It is essentially an informal statistical procedure and there is no reason why in time it may not be reduced to more explicit statistical operations. I should like to point out that this is a legitimate part of work with cases. The more intensive empathetic methods usually lead to the establishment of knowledge on the basis of which the less

demanding diagnostic classification work may be done. It is at this stage of the knowledge about cases that the method merges into or lends itself to explicitly statistical tests of knowledge arrived at by case-study methods.

The insights and hypotheses come from the rôle taking process. The categories and functional relations so discovered are then used at the syndrome classification and diagnostic level. This is as it should be, but the difficulties of the first method, and the relative economy of the second make for a tendency to set up categories and types and to operate with those alone and never press explorations further. Unless insight and analytic skill are constantly kept fresh by frequent use of the rôle-taking process, we drift into static classification, the elements of which tend to become reified entities while our abilities to see actual dynamics of a case become correspondingly low. It is one of the tragedies of case research that the valuable insights of a skillful investigator are often taken over by followers who then proceed to apply them in a rule of thumb, symptom-tagging style--witness the history of psychiatry and psychoanalysis.⁴ It is in this manner that knowledge frequently becomes sterile and actually blind. In my opinion, it is only by frequent recourse to the empathic processes of studying cases that we expand our hypotheses to cover human interaction and personality organization more completely. With these tentative formulations as guides we are then able to use fruitfully repeated observations and statistical manipulations for verification and for more efficient prediction.

⁴It is just this type of incrustation that H. S. Sullivan is breaking through in his efforts to formulate an interpersonal theory of psychotherapy. See his lectures, *Conceptions of Modern Psychiatry: The First William Alanson White Memorial Lectures, Psychiatry*, Vol. 3, No. 1, February, 1940.

It should be stated here that the point of view represented in this paper was developed independently of Sullivan's formulations. My first published effort at applying this point of view was an article entitled "Rôles and Marital Adjustment," *Publication of the American Sociological Society*, Vol. 27, 1933, pp. 107-115. In that article I indicated the chief sources of my own thinking. It is interesting to note the convergence toward this point of view of many independent workers. See Cottrell and Gallagher, *op. cit.*

SOCIAL PREDICTION--DEVELOPMENT AND PROBLEMS

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Being somewhat historically minded, I approach these three papers from the standpoint of the development of sociological prediction. No doubt it began with the "common-sense" predictions of every-day life, predictions such as these: young people who attend non-sectarian colleges will drift away from the church, John Smythe will succeed in politics because he comes from a good family. A step beyond such casual, impressionistic judgments is the more studied effort of public officials to predict the effects of given laws or administrative programs such as capital punishment, protective tariff, and compulsory military service. More recently social workers have based their programs on predictions, often implicit and sometimes explicit, as to what would happen if an unmarried mother kept her baby, if a habitual family deserter were sentenced to a prison camp, if a migratory worker were given a steady job. Still more recently sociologists, especially those interested in social pathology and social psychology, have supplemented their studies of "causal" processes with crude attempts at prediction. Only yesterday, one might say, was there a beginning of systematic study aimed at the development of objective methods of prediction in the field of sociology.

To date most predicting of social relations has been subjective, impressionistic, and unverified. Often it has rested on recognition of the sequence or concurrence of two items; e.g., alcoholism and poverty, or low intelligence and unskilled labor. In such predicting terms have usually been carelessly defined or used with varied meanings. The observer-predictor is likely to be unduly impressed by dramatic cases and to overlook or forget less striking cases which do not conform to his expectation.

Sometimes the observer-predictor selects a limited number of items that seem to him important in a given case or in a given type. In addition to the faults already mentioned, this sort of predicting involves the danger that the norms of a given social group at a given time in a given setting may be accepted uncritically and that cultural, personal, or other

variations may be overlooked. It seems to me that all predictions of success, or happiness, or social adjustment run this risk. Moreover, as Stouffer and Cottrell point out, these multiple factors are often merely strung together and not treated as clusters or configurations.

Sometimes the observer-predictor rests his work on the acceptance of some ideology which may or may not be based on careful analysis and by someone else, but in any case is taken on faith by the immediate predictor. Such an ideology may stress apparently single items like religious exogamy and marital discord, or projection of parental ambition and vocation failure, or it may deal with a trend in the life of an individual such as growing introversion or regression.

Many of the predictions I have discussed deal with factors--physical, emotional, economic, educational--as relatively static entities which exist, as it were, in the individual. Cottrell properly warns against the danger of ignoring the changing and developing, i.e., the dynamic character of factors in the life of a human being. He also lays proper stress on what he calls the "interact situation," when he tells us that "the behavioral components we tend to speak of as attributes more or less independently possessed by individuals are actually relational functions."

Stouffer proposes some statistical procedures for identifying significant configurations with which it may be possible to work--factor analysis, the assigning of arbitrary or item-analysis weights, and use of the discriminant function. My competence in statistics is much too limited to permit a critical discussion of these procedures. For the problem to which he would apply them I must accept their utility.

Cottrell would attack the problem of identifying and symbolizing configurations (interpersonal situations) in a different manner. He would make use of sympathetic introspection or identification-projection. Now I have question about the usefulness of such techniques in discovering items that may prove value in subsequent analysis. But surely he does not intend these procedures to stand alone. No doubt he expects them to be supplemented by statistical operations such as those Stouffer mentions. Cottrell's version of the Meadian putting oneself in the place of the other will doubtless yield clues, but hardly assures the development of standardized procedures and suitable terminology or other symbolism.

It is at this point that Burgess seems to me to have made an important contribution. I am impressed with his use of: (1) verbatim records of interviews; (2) tentative rating

scale; (3) separate ratings based on the separate assumptions that (a) "no alternative circumstances will enter into the relationship to change its course," and (b) that alternative circumstances will enter; (4) notation as to whether a rating is based on statements or on inferences; (5) independent rating by several different persons; (6) master sheet showing how each person rated each factor; (7) comparison of prediction with similar rating of adjustment based on interview after passage of three years; (8) comparison of prediction with adjustment score of a different type (Burgess and Cottrell or Terman). Thus Burgess is developing relatively objective means of checking the predictions of one person with those of another, and means of testing predictions by actual concrete adjustments over a specified period of time. In his procedures there is a promising combination of case-study and statistical devices. In the intensive, exploratory interviews there is hope of revealing significant factors, relationships, configurations and processes. In the rating schemes there is hope of reducing masses of unique and involved life-history material to comparable form. In comparing the work of different students and in comparing predictions with subsequent events there is hope of objectivity and accuracy.

CRUCIAL PROBLEMS IN METHODS OF PREDICTING SOCIAL ADJUSTMENT

Comment on the three papers (Burgess, Cottrell, Stouffer)

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These papers on the crucial problems in methods of predicting social adjustment offer varied approaches to the subject matter of an old controversy in sociology. For the most part, the papers manage to be non-controversial, and taken one at a time and granting the frame of reference under which each is written, there is little to be said in criticism of or disagreement with any of the three. The critical comments that follow are for purposes of emphasis and the stimulation of discussion, not a judgment of procedure as such. I have found the papers thoughtfully written, with refreshing frankness in recognition of the limitations and objections to practices followed.

Especially interesting is Burgess' description of procedure in a series of seminar projects still in process dealing with the problem of item analysis in standardized form of the jumbled mass of verbal information contained in verbatim or stenographic reports of lengthy interviews. This seems to be working in the direction of developing a standardized interview schedule in which the various items involved may be susceptible of transformation into a numerical score. If such a schedule is developed, the logical next step would be to make the standardized schedule the basis of the interview and to treat the resulting information quantitatively and statistically.

Burgess' paper does not make clear whether this is the general objective of the study in process. Obviously, the crucial problems of methods in predicting social adjustment will be quite different in case the item analysis leads to the use of a standardized interview schedule which may be transposed into quantitative scores, or whether the results of this experiment in numerical weighting and testing of items is to be used only as a general guide for the un verbalized, intuitive interpretation to be made by the case interviewer, or a still more remote case analyst dealing only with the written record.

Cottrell's paper disavows any intention of discussing the relative merits of case study versus statistics and sets out

instead upon the reiteration of a point of view and the exposition of a vocabulary in social psychology that has been documented already in various publications by himself and others. Granting the general frame of reference or point of view elaborated, the argument is on the whole non-controversial.

Critical questions may be asked about how to recognize "rôles" and how to identify the same "rôle" at another time, as well as how to get others to understand the same behavior situation in terms of the same rôle analysis. If rôles and situational patterns are to be recognized from verbal descriptions, then some kind of item analysis of words and sentence definitions seems an inevitable next step tending towards standardization--and if such standardization of verbal description can be achieved, then a schedule for the recording of observations is at hand and the transformation of the dynamic case interview into some form of schedule or test score has taken place.

In the paper under consideration, Cottrell indulges in no discussion of the possibilities or probabilities of such development. A crucial problem of method in the predicting of social adjustment would seem to be that of determining what, if anything, there is in the non-verbalized, intuitive, "insight" comprehension of "rôle" or "situation" that can not be incorporated into some form of standardized instrument based on past observation and experience and susceptible of application within known limits of variation and validity.

Stouffer's paper is the only one of the three that attempts any discussion of the logical bases of prediction, either by statistical or by case methods. His excellent analysis of the nature of a configuration, in the course of exploring the significance of the unique case, is one with which there is likely to be little disagreement. Cottrell specifically mentions having read Stouffer's analysis and testifies to general agreement with the logical position taken. Certainly no one can quarrel with Stouffer's concluding admonition, namely, "The statistician and the case study investigator can make mutual gains if they will quit quarreling with each other and begin borrowing from each other."

I have no special wisdom to contribute to the details of this somewhat elaborate discussion of problems of prediction methods.

It may be fruitful for further discussion, however, to restate some fundamental considerations involved in the problem--some of the simple elements that may be overlooked in the more complicated and sophisticated analyses that have been presented in these papers.

Prediction is the projection of experience. It is a logical inference about future course of action based on past experience. Prediction and guessing are not the same, though superficially they may seem to be so because both hazard a judgment about probable future events.

We can guess at the outcome of any behavior--including, of course, the probable success of marriage adjustment. Typically the guess is based on any kind of information the guesser may happen to have, with little concern about the adequacy, reliability, accuracy, or verifiability of the information, or of its relevancy to the behavior in question. A good illustration of this kind of nonsense, clothed in the form and language of academic scientific procedure, is the solemn work of Sorokin some years ago to determine that it is impossible to predict one's own behavior twenty-four hours in advance.¹ Sorokin demonstrated that guessing at one's future probable conduct as per a particular future date was subject to a high percentage of error when checked against the record of actual behavior. But Sorokin's difficulty was that despite the appearance of objectivity, and despite recourse to statistical analysis, his subjects were without any systematic verified or verifiable information about their own past experience. Without such information about themselves at hand in systematic form so that it could be summarized for the purpose of logical inference about the future, the only thing Sorokin's subjects could do was to guess at their probable future action. That is not prediction.

Scientific prediction is possible only when past experience has been systematically summarized on the basis of complete, accurate, verifiable information such that an estimate of future probable conduct may be logically inferred from the past record. The prediction when made is then always within known theoretical limits of error and subject to the conditions governing the opportunities for gaining adequate information about past experience. If the information about past experience is inadequate or inaccurate, so that it does not reflect the actual course of past behavior, then the logical inference made will be mistaken and the prediction in serious error. If the information is totally inaccurate, such that the picture is not that of past experience at all but some other combination of information items, then the process becomes one of guessing, not of predicting, future probable conduct.

¹P. A. Sorokin: "Is Accurate Social Planning Possible?" *American Sociological Review*, Vol. 1, No. 1, February 1936, pp. 12-28, especially page 16.

Completeness, accuracy, and verifiability of information about past experience are matters of degree. The crucial problems of prediction methods would seem to be, therefore, not the question of whether to use case study or statistical methods in arriving at an inference about past behavior, but rather problems growing out of the basic question of how to observe and how to record our observations such that we, and other investigators as well, can utilize their significance in a uniform and significant manner in interpreting the record of past behavior. The nature of the units of observation in which past experience is recorded seem more important for questions of prediction than the methods used to summarize these observations for purposes of making inferences about the future. If the units are stable, standardized items that convey the same information to others yet include the essentials of completeness and accuracy of recording of past experience, then the method used in arriving at an inference is largely a matter of the degree of refinement or sophistication called for in the analysis. If the units are unstable uncertainties, with very different meaning to different investigators, so that no matter how elaborate the detailed mass of such information there is still no accurate representation of past behavior, then the inferences based on such units can never be more than guesswork.

In seeking to develop methods that can be utilized by others in a consistent manner to give comparable results, there is always danger of promoting a cult of verbal orthodoxy. When students grow more and more alert and skillful in recognizing the answers that the professor would like to have them make, there may be genuine development of knowledge or there may be merely a developing cult of those who make the right answers. To put the matter more bluntly and more concretely for purpose of specific illustration, if Cottrell's students in reading a case record find the same interaction situations and the same "rôles" that Cottrell finds, it may mean that these "rôles" actually operate in the case, that these words and descriptions represent some fundamental reality that may be readily grasped by all, or it may mean that they have learned to find that which they are supposed to find.

The same observation should be made, of course, about procedure in using a standardized scale or schedule--there are cultists in statistical interpretation as well as in case study analysis. The mechanics of schedule making may replace all thinking about the problem at hand and become little more than glorified busy-work.

If the point that has been emphasized is correct, the

essential problem is that of how to treat information about past experience. That is, the problem is how to observe, how to record observations, and how to summarize and reproduce such information in order to make past experience the basis for logical inferences about the future. It is clear that any method that helps bring such information into significant relation to probable future conduct needs to be given serious consideration. The statistician cannot afford to overlook any clues to new items, new avenues of information, or to different emphasis in combination of items that may come from the verbal descriptions and judgments recorded by the case investigator. By the same token, neither can the case worker afford to sit back indifferent to the need to standardize his descriptions such that they will carry the same information to others and such that they have a constant and known index of significance.

To paraphrase Stouffer, it is high time for the case investigator and the statistician to quit quarreling and to start borrowing from each other in order that each may learn about how more accurately and in a more meaningful manner to describe past behavior as a more certain basis for more accurate inferences about the probable future course of conduct.

CASE-STUDIES VS. STATISTICAL
METHODS--AN ISSUE BASED ON
MISUNDERSTANDING

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I agree with Stouffer that "the statistician and the case-study investigator can make mutual gains if they will quit quarreling with each other and begin borrowing from each other." Quarreling as exemplified in most social science discussion of the type now current, is in my opinion entirely the result of inadequate means of communication. The argument disappears when a more rigorous set of symbols and rules of logic are introduced.

The paper of Stouffer is an admirable illustration of this fact. For example, Stouffer, in answer to the question "What is a configuration," submits a possible definition of the concept which, as he defines it, cannot conceivably have more than one meaning. There are doubtless those who will contend that when they use the term "configuration" they have something else in mind. That is their privilege. But if the subject is to come up for scientific analysis as contrasted with mere argument, some equally definite definition of what they want the term to designate must be forthcoming. Is it not this definiteness which distinguishes science from other forms of discourse and of knowledge?

It is true, however, that until the more rigorous type of symbolic representation can be developed, we have to get along with less precise methods, and that perhaps it is only on the basis of such preliminary discussion that suitable substitutes of the more rigorous type can be developed. For example the papers here under discussion represent considerable progress toward a resolution of one of the principal arguments between the case methodists and the statisticians, namely, the question whether generalization or prediction from a single case is scientifically permissible. This controversy seems to have nourished itself on a misunderstanding of what is meant by a "case" in the present context. An illustration will clarify the point.

The clinician will point to an individual patient (usually called a "case") with an entirely unique neurotic complex,

as for example, vomiting when a particular name is mentioned. By observing the recurrence of this phenomenon (i.e., the vomiting) the psychiatrist can, of course, predict it and state the probability that it will occur under given circumstances. The speech convention of calling this individual patient a "case" has given rise to the illusion that in the above instance the psychiatrist is predicting from a "single case"! Now obviously, for purposes of scientific prediction the "case" here is not an individual person but a vomiting spasm. All prediction deals with events--behavior units of some kind. The discovery of the conditions under which the event occurs, and therefore its prediction, can be made only from observation of repeated occurrences.

Predictions based on intensive studies of "a single case" are always of this kind. That is, prediction of any given behavior is always based on the observation of cases of that behavior, either in a given individual or in different individuals assumed to be sufficiently similar so that under like conditions they will behave similarly. The notion that we are predicting from a single case just because the behavior cases all took place in an individual organism (or other selected unit) is clearly just another of these misconceptions due to ambiguous language and lack of rigorous, operational, analytical thinking. No one would contend, for example, that we predict from a "single case" when we predict the population of the United States because only one nation is studied in making the prediction. Here it is recognized that thousands of behavior events within this entity, the United States, are taken into consideration in making the prediction, and that it is by virtue of these cases (of population change) that we predict for the United States as a given "case" (of a class of entities called nations). Likewise, perhaps no one would say he predicted the behavior of a given rat from a single case just because his prediction is based on the observations of a single rat which, however, ran through the maze 100 times. Yet our preoccupation with the human individual organism, as a "basic," "primary," "unique" entity is still so great as to make it seem wrong somehow to apply the above reasoning to human "cases." The main reason is that in the latter case we have numerous facile, intimate, and informal ways of making observations and generalizations so that we frequently are not conscious of the operations involved, whereas in the case of the rat in the maze these operations are forced on our attention.

This conclusion is further confirmed by an examination of the actual operations of predicting in more complicated

cases. For example, if a man can predict what his wife ("a single case") will want for Christmas, it is because of some regularity in her wantings on other similar occasions when gifts are in order. The operations involved in observing these regularities in her wantings are usually obscured by such blanket statements as, "I know my wife," "her personality indicates what she will want," etc. But these statements merely mean that certain events, sequences or patterns of behavior have been observed sufficiently frequently to cause us to assume that they will recur under given similar circumstances. These cases of behavior under given circumstances, which altogether constitute personality, are the basis of all prediction.

The reason we do not recognize this is that the aspects of a situation taken into consideration are never clearly separated in folk language from those ignored. Thus we say "we measured the man." Which of the numerous aspects of the man we measured is left to the context. "Personality" and "configuration" are terms similarly conjured with. Is a birth a single event or a "configuration" of events? It is a single event when I respond to it as such and a configuration when I respond to it in that way. The same may be said when this question is asked about a personality and a cell, a grain of sand or a solar system. Arguments over such questions spring from a still widespread delusion that because we necessarily respond to the universe selectively and in parts, largely determined by the units provided by the language we inherit, therefore these units represent actual divisions in nature. If we are merely interested in predicting births we observe the circumstances under which they occur as unitary events, all of them the same for our purpose. If we are interested in some aspect or aspects of births as configurations, we study the repeated occurrence of these aspects. We may observe hundreds or thousands of such cases from a single mother in some species, and predict from these occurrences. Are we predicting from a single "case"? The question disappears as soon as we refer to the operations we have gone through in making the prediction.

Stouffer is quite right, of course, when he points out that formal statistical methods cannot be applied in concrete cases when the number of possible configurations becomes so large that no sample is large enough to provide an experience table. That is also the predicament of the informal predictor, who may, however, convince himself otherwise by refusing to face the operations involved in his results. Stouffer is right also when he says that statistical procedures sacrifice information about individual configurations "in order to obtain broad

enough classes to assure an adequate number of cases from the trial sample in each class." If the case methodist were equally concerned (as he would have to be if his predictions were to be equally valid and his procedures were to be subject to equally rigorous check) about an adequate number of cases, he would likewise have to confine himself to a few items in the configuration. Today he studies one or a dozen "total personalities"¹ and as Stouffer says, "assumes some value out of his general experience" (cases) and predicts--with a degree of accuracy, varying, I have no doubt, quite according to the number of cases reported and unreported from his "general experience." I have no objection to this. I merely point out that the basic operations in prediction are always the same.

For the same reason I have no objection to Stouffer's statement that "If the case-method were not effective, life insurance companies hardly would use it as they do in supplementing their actuarial tables by a medical examination of the applicant in order to narrow their risks." I do not see, however, that this constitutes a "supplementing" of actuarial tables. It is rather the essential task in constructing specific actuarial tables. To be sure we, usually think of actuarial tables as being based on age alone. But on the basis of what except actuarial study has it been decided to charge a higher premium (and how much) for a "case" twenty pounds overweight, alcoholic, with a certain family history, etc.? These case-studies have been classified and the experience for each class noted until we have arrived at a body of actuarial knowledge on the basis of which we "predict" for each new case. The examination of the new case is for the purpose of classifying him as one of a certain class for which prediction is possible.

For this reason also I cannot follow Allport in his insistence that there are two kinds of prediction. He says:

"....It seems to me that the argument for prediction is bedeviled by a failure to recognize two kinds of prediction: (a) actuarial prediction concerning whole populations of people

¹The notion that anyone ever studies a total personality is itself a delusion which arises from a method in which there is lack of specification as to just what is taken into consideration and what is ignored. The most complete "case-study" takes into consideration only a fraction of the aspects that might be considered. Case-studies may take into consideration more aspects than can be handled by current statistical methods. But the notion that all aspects or the whole personality is considered is surely an illusion arising from the unspecified operations involved in the procedure.

and (b) individual prediction concerning the possibilities of action for a single person..... The displacement of the psychological point of view is the chief fallacy of statistical social science..... The only way in which we can predict the chances (sic) that a given individual has of behaving in a certain way is to study him as an individual and especially his subjective mental processes with the aid of subjective categories."² That the actuarial predictions do not tell which individuals will be involved in the predicted behavior is everywhere recognized. It does not follow that the chances of a given individual's behaving a certain way can be determined by other than actuarial methods. Study, if you will, a given individual as thoroughly as can be imagined, including his most subjective or subconscious mental processes, with the aid of as many subjective categories as anyone desires. What possible basis for prediction does all this material provide except a basis for classifying the case as more or less like other cases with which the analyst has had experience (directly or indirectly through reading about cases, laws of mechanics, physiology, psychology, or what not) all of which represent a formal or informal actuarial basis of every prediction regarding "the chances that a given individual has of behaving in a certain way"? What possible basis of prediction could the most intimate knowledge of a case provide, (note my definition of "case" above) unless the predictor can interpret this knowledge in terms of knowledge of other cases and how they behaved? The value of this intimate knowledge of the case is not denied. Indeed, such knowledge is a necessary basis for refined statistical classification and interpretation. I merely point out that this knowledge gives predictive power only because of the refined classification it makes possible in relation to other cases for which more or less reliable probabilities have already been formally or informally worked out. Thus this objection to quantitative methods from practical workers reduces itself to the question whether the generalizations from which we must proceed should be arrived at by the empirical rule-of-thumb method, or through the definitely quantitative and objective procedure of statistical methods.

I have always said that when conditions necessary for recognized formal statistical procedures do not exist, we should get along as best we can with other methods. To the degree that these latter achieve reliable prediction, analysis of the procedures involved will show that they are of the same basic character as those employed by the statistician.

²G. W. Allport in Critiques of Research in the Social Sciences I, "An Appraisal of Thomas' and Znaniecki's The Polish Peasant in Europe and America" (Social Science Research Council, New York, 1939).

THE ADVANTAGES OF THE SOCIOMETRIC APPROACH TO PROBLEMS OF NATIONAL DEFENSE

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INTRODUCTION

These notes were stimulated by an invitation from the Social Science Research Council, Sub-Committee on Methods of Prediction, under the chairmanship of Dr. Samuel A. Stouffer, to write a critique on a study, "The Prediction of Personal Adjustment," by Paul Horst and associates,¹ designed to be of use to the authorities of our National Defense. At the time of this invitation,² I prepared, in the form of a memorandum, some remarks on the applicability of sociometric and spontaneity tests to the psychology of military and defense situations.

The semantic relation of terms like "Stegreif," "impromptu," and "spontaneity" to the term "Blitz" is obvious. In military situations of modern times, a premium is placed upon emotional stability, speed of performance and--above all--split-second judgment in action. An individual may be in possession of the knowledge and skills for specific situations, yet be unable to fulfill the requirements of the situations. The factors beyond skill and knowledge which determine behavior require tests of a new sort. It is at this point that the spontaneity test in its various forms--particularly in testing individuals in standard life-situations--has shown the way.

METHODS

A new trend in the testing of behavior has been introduced by sociometric and spontaneity procedures for the study

¹"The Prediction of Personal Adjustment," by Paul Horst, with collaboration of Paul Wallin and Louis Guttman, assisted by Frieda Brim Wallin, John A. Clausen, Robert Reed and Erich Rosenthal; Bulletin No. 48, Social Science Research Council, New York, 1941. xli + 447 pp.

²May 21, 1941.

of group and individual behavior, respectively. Since the trend is gaining ground in many other laboratories,³ it may be pertinent at this time to recall some of the main principles involved.

"The problem was to construct the test in such a manner that it is itself a motive, an incentive, a purpose, primarily for the subject, instead of for the tester. If the test-procedure is identical with a life-goal of the subject, he can never feel himself to have been victimized or abused..... Yet the same series of acts performed of the subject's own volition may be a 'test' in the mind of the tester. We have developed two tests in which the subject is in action for his own ends. One is the sociometric test. From the point of view of the subject, this is not a test at all: it is merely an opportunity for him to become active in matters concerning his life-situation. The second test meeting this demand is the spontaneity test. Here, in a standard life-situation, the subject improvises to his own satisfaction, but to the tester it releases a source of information in respect to the character, intelligence, conduct and psychological position of the subject..... Through the sociometric and spontaneity tests, the artificial setting of the.....Binet intelligence tests is substituted for by the natural life-setting."⁴

"The director sets up the various experimental or test situations....situations and roles which they (the subjects) themselves wish to produce and which they may have within themselves in some degree or development..... The material gained from such tests can be used for diagnostic interpretation."⁵

The situational tests took place before a group of observers averaging 15-20 individuals. Like members of a jury, each of them was able to arrive at an evaluation of the performance.

³See H. L. Ansbacher, "Murray's and Simoneit's (German Military) Methods of Personality Study," Journal of Abnormal and Social Psychology, Vol. 36, No. 4, October, 1941. pp. 589-590.

⁴J. L. Moreno, "Who Shall Survive?", Nervous and Mental Disease Publishing Co., N.Y. and Washington, 1934. pp. 14 and 15.

⁵J. L. Moreno, "Das Stegreiftheater," Gustav Kiepenheuer Verlag, Berlin, 1923, and its translation, "The Philosophy of the Moment and the Spontaneity Theatre," Sociometry, Vol. IV, No. 2, May, 1941, p. 210.

"A series of situations as they may occur in community life, home life, domestic life, business, etc., is constructed The situations are either chosen by him (the subject) or suggested to him by the instructor..... The students are told to throw themselves into the situations, to live them through, and to enact every detail needed in them as if it were in earnest. The emphasis is placed upon how true to life a certain procedure is.

"One student takes careful record of each performance. A copy of it goes to every student..... After each performance, an analysis and discussion of it opens up in which the students as well as the director take part.

"The criticisms range from consideration of the emotions displayed in the situations, to the mannerisms, the knowledge of the material nature of the situations, the relationships to the persons acting opposite, and the characteristics of carriage, speech and facial expression.

"Many traits which indicate personality difficulties are disclosed: anxieties, stage fright, stuttering, fantasies, unreasonable attitudes, and so on."⁶

To the material obtained from these tests in standardized life-situations was added materials gained from the initial interview, case-study, and the individual reactions to the sympathy, hostility, fear or any other emotion hurled at the subject by the persons placed counter to him in the situation. A test procedure lasted for two or three sessions, the duration of a session ranging from one half-hour to an hour. The recording was usually stenographic, but at times speech recording and motion-picture devices were used.

The operational aspect of the test-procedure was thus moved into a place of first prominence, and the observational aspect relegated to second place. Sociometric procedures, as applied to group situations, have been described elsewhere.⁷ The same general principle prevails with sociometric testing as with spontaneity testing.

⁶From a paper by J. L. Moreno and Helen H. Jennings which was read with motion-picture illustrations before the 91st. Annual Meeting of the American Psychiatric Association, Washington, D.C., May, 1935, and published in the *Sociometric Review*, New York State Training School for Girls, March, 1936, p. 17.

⁷J. L. Moreno, "Who Shall Survive?", 1934, pp. 69-266, etc.

PSYCHOMETRIC VS. SOCIOMETRIC APPROACH

Methods of Prediction. The prediction of personal and interpersonal adjustment is made upon the basis of various tools and methods. One method is the psychometric approach, a method which is excellent but one-sided. It is the more one-sided the more the other persons in the situation affect the personal picture. Predictions must, therefore, of necessity be hampered and narrowed by a large number of contingencies, and the more so the more complex the problem is. Another method is the sociometric approach. This approach is important not only in order to make the predictions more accurate, but also to make them plausible and acceptable to those for whom they are made--as well as for those who make them.

Prediction tables can be based upon psychometric methods and sociometric findings separately or combined, and by the integration of the respective findings. As long as prediction tables based upon the psychometric approach are made exclusively to increase our knowledge of individual behavior in general, one can look more tolerantly at their statements and conclusions. But when the intention is to use them on actual individuals in real-life situations such as, for instance, choosing for a man his working associates or his vocation, or trying to adjust his interpersonal problems, the consequences are extremely serious. It then becomes of strategic importance to know which steps to take first--that is, which tools to use first--which steps to take second and third, and which final steps to take in order that prediction tables may work in congruence with adjustment tables, and not independently of one another.

Main Tasks in Personal and Interpersonal Adjustment. There are at present two main tasks in all personal adjustment: first, to match one man to another man or to a social group, and second, to match a man to a vocation or a job. According to statistical prediction tables, constructed on a psychometric basis, there may be an extremely high expectancy that John will make a good work-associate for James, or that John will fit into a certain group of workers. To take the extreme case, John and James are to be thrown together strictly on the basis of psychometric prediction tables made with a sample group without John and James ever having met and without the predictors ever having interviewed either of them. A similar procedure might be applied to John's assignment to a vocation or a work-group, although John may

never have met any of the men with whom he is to work, and neither he nor they have ever met the predictors.

It does not seem to me that statistical prediction based on psychometrics is as yet sufficiently worked out to be accurate or--in the last analysis--attuned to certain fundamental ethical demands postulated by the individuals of our culture who expect to take an immediate part in the decisions which are made about their lives. The sociometric approach lends itself better than the psychometric approach to the working-out of prediction tables. Sociometric prediction tables would be able to predict with greater accuracy.

Psychometric vs. Sociometric Case-Study. Individual case-study--as a psychometric approach--is an excellent procedure as far as it goes, but it does not go far enough. The individual is still an object--an object of study. Case-study techniques, whether using the oral interview or the formal questionnaire, fail to get the full coöperation of the subject. They fail to make the object of the case-study an enthusiastically and critically participating subject, as is the case with sociometric techniques.

Sociometric Procedure. It is possible to approach the whole problem of prediction from the opposite end of the prediction-adjustment axis and to begin the work at the level of the real situation of the concrete individual, preparing as the first step adjustment tables and then moving more and more away from the real situations, and gradually developing prediction tables. Into the preparation of these can be integrated any of the research methods outside of sociometry. Prediction tables based in this manner upon the combined sociometric and psychometric approaches will have their feet on the solid ground of intimate knowledge of the actual needs of the individuals and, at the same time, will give this information to the independent technician in such a way that he can draw practical conclusions from it.

Critique of Psychometric Tests; the Advantages of Spontaneity and Sociometric Testing. A basis for psychometric prediction can be found in the following procedures: probationary performance, proficiency tests, and personal and social characteristics associated with success or failure. I believe that the use of probationary performance as a check on behavior in activity--a method both extremely unwieldy and costly in application--should be substituted for by a series of spontaneity tests in standardized life-

situations for each applicant. On the basis of experiments it has been found that these spontaneity tests provide a highly accurate short-cut to the prediction of behavior in activity--however specialized. Proficiency tests are, of course, indispensable, but they can easily be coordinated with the spontaneity tests suggested above. This procedure has many advantages. For instance, a person may disclose an increased or a decreased skill in a performance when he is working all by himself, when he is working with agreeable partners, or when he is working with associates who are distasteful to him. The personal and social characteristics of the individual can be arrived at by sociometric and spontaneity tests and a sounder basis for prediction thus be achieved than if psychometric methods are used alone.

Application of Sociometric Procedures to Problems of National Defense. The responsibility which the scientist assumes when his suggestions are to be applied to concrete individual situations is so great that it is worth while to challenge the whole view of many psychologists who seem to believe that one can move individuals into jobs or into new communities without their full participation and consent. The defense situation may be particularly tempting for one holding such a view. All of us have been brought up to think that a good soldier is an individual who doesn't think at all but merely obeys orders which come from some authority above him. Blind obedience to orders will go on only as long as the suggestions made by the superior prove logical in the end and successful in combat. But when defeat and failure set in, protest and rebellion spread to the surface from the grapevines.

Sociometric methods, although they are based on the individual's most personal situations, lend themselves just as easily as any of the psychometric methods to the strictest discipline within defense units. It must be made clear that it is the information which comes direct from the individuals--not the decisions which come as a result of the information. These latter are made exclusively by the sociometric technicians or the military authorities in charge. The individuals within a sociometric system of social organization have no more influence upon the decisions made by the authorities--merely because he expresses his most objective and most sincere feelings about his job or his associates--than has a soldier who reports to his superior officer what he sees through his field-glasses. The soldier tells the truth to the best of his ability.

His statements are used by his superior officer according to the latter's best judgment. The officer would be negligent if he did not take full advantage of the information received from every possible individual to whom some responsibility had been assigned. Again, it is like the situation when the soldier has suffered an injury and reports to the medical officer where his pains are, and the latter uses this information--in addition to other media--in coming to a diagnosis. In sociometric work, the authority of final choice and decision rests with the technician and the commander. The individual is used as the most sensitive instrument we know today for sizing up his own sensations and reactions to his environment. The experts of prediction and the experts of adjustment must come to a common course of action. We should consider, in the present emergency, the commonsense, direct sociometric approach in preference to any exercise of power over individuals, based upon sample groups which have been studied and analyzed independent of the actualities of the individuals themselves.

The sociometric devices which should prove to be particularly helpful for the needs of the national defense program now in development are the sociometric test and the spontaneity test in standardized life-situations. Both tests are applicable to the two main objectives for which expectancy and prediction are desirable: the assignment of an individual to a vocation and the assignment of an individual to other individuals with whom he is to work, live and function in any defense situation. Although neither of these procedures is an interview technique, they both nevertheless reveal to the investigator what any interview would disclose and, in addition, bring forth other personal and social characteristics which are ordinarily hidden from the observer. They are both systematized short-cut approaches to the individuals in action.

It is important to emphasize at this point the low cost of sociometric work. This low cost is due to the fact that all the individuals to be investigated, assigned or adjusted are themselves turned into investigators by the very nature of the sociometric process, thus eliminating large staffs. Another of the virtues of both the sociometric test and the spontaneity test in standardized life-situations is their great simplicity of operation and their immediate appeal to the average mentality.

A program which is to assign individuals to communities or to vocations must determine the first step to be undertaken. The first step cannot, in my opinion, be a statistical prediction table--not, at least, in the year 1941 with the sciences of psychology, social psychology and sociology in their

present stage of development. The first step cannot--again, in my humble opinion--be prediction tables based upon case work study, nor can the first step be based upon the "observation" of activity and probationary performance by participant observers or spectators. The statistical psychometric prediction table operates in a highly-organized vacuum, but, nevertheless, in a vacuum. The case work methods function with single, independent individuals, but what is needed today is an approach to masses of people and their behavior; statistical prediction considers the mass as an abstraction.

The first step to be taken must be with the consent and the coöperation of the individuals concerned. It must be made by them as if it were their own project--their own design for living. There is no other way imaginable which can enlist the spontaneity, the critical intelligence and the enthusiasm of grown-up, thinking people.

There is a systematic approach available today which, under the label of "sociometry" has developed methods which are at the very least able to make a frontal attack--an attack which seems, even to the subjects, to be plausible--upon some of the most crucial problems with which our defense program is faced today, for we are taking men out of the groups and communities in which they have been living and we are banding them afresh into new groups and communities designed for but one purpose: the organization of defense. Here I purposely emphasize this one point, the first step--for I believe that all other steps following the first can make use of many of the researches and methods which lie outside the sociometric domain. If we have the first step right, the prediction tables will follow. If we have the first step wrong, the prediction tables are useless and sterile.

I cannot believe that there is employed within our defense system even one technician capable of putting together--like a jig-saw puzzle--the overwhelming and, I fear, confusing number of methods and tests which are offered to them. Indeed, the danger is that the technicians and defense authorities may not use psychological, sociometric and psychiatric methods at all, but come to feel that we social scientists know nothing about people--especially the Army.

THE FUNCTION OF THE SOCIAL INVESTIGATOR IN EXPERIMENTAL PSYCHODRAMA

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INTRODUCTION

The experimental psychodrama has shown that controlled experiments in the social sciences can be carried out--for the first time, it is believed, in the evolution of the social sciences--with the same precision as in the so-called natural sciences. More particularly, it is possible to make the social investigator,¹ who is inside the social situation, an objective part of the material studied--to have him, so to speak, both inside the experiment and outside of it. What has hitherto been, in the strict sense, impossible, now becomes possible: man can be made his own "guinea-pig."²

A scientifically correct exploration of a social problem must begin with the exploration of the social investigator himself. This exploration has several well-marked phases: first, it must determine the rôle which the investigator is to assume in the situation he is to examine; second, it must determine the changes in his attitudes and rôles which will take place in the course of the investigation. Finally, the mind of the investigator must be explored to determine what he is thinking before, during, and after the investigation. In short, the investigator must expose himself to systematic observation. For a thorough, systematic observation of the social investigator, the psychodramatic method is ideally suited.

In the psychodramatic method, the function of the social investigator is primarily fulfilled by the psychodramatic

¹J. L. Moreno, "A Frame of Reference for Testing the Social Investigator," *Sociometry*, Vol. III, No. 4, pp. 317-327, and "Developments in Social Psychology, 1930-1940," by L. S. Cottrell, Jr., and Ruth Gallagher, *Sociometry Monograph*, No. 1, 1941, pp. 57 and 58.

²Julian Huxley, "Science, Natural and Social," *Scientific Monthly*, Jan., 1940, and G. A. Lundberg, "The Future of the Social Sciences," *Scientific Monthly*, Oct., 1941.

director. It is the director who is the prime mover in the investigation. To a lesser extent, the auxiliary egos employed by the director in the investigation can also be considered as social investigators, but their function as such is subsidiary to that of the director; they act as tools of the director and bring to him the benefit of their actual participation in the problem itself, both as reporters of their observations and as agents of the director functioning within the problem in a controlled and systematic fashion.

It is the purpose of this paper to examine and objectify both the psychodramatic director and the auxiliary ego in their functions as social investigators, first, in a general way within the frame of the psychodramatic procedure and, second, in reference to a particular case-illustration.

ANALYSIS OF THE PSYCHODRAMATIC DIRECTOR

To a hypothetical question as to whether or not the function of the director is essential to the psychodramatic procedure, the answer can only be in the affirmative, for someone, after all, must start the session, call upon the subjects, open the various interviews and act as a sort of "super-auxiliary ego" to keep an eye on the total picture.

The psychodramatic director, in his function as a social investigator, can be examined from two points of view. First, there is the point of view of the general and formal pattern of conduct which he exhibits at all times and in all cases; second, there are the patterns of conduct which he exhibits in a particular case. Here there may be as many variations in his behavior as there are cases. The director can describe and outline the psychological considerations which determine his selection of a particular approach or method of treatment. It is also necessary that he give some idea of the motives which drive him to assume a certain range of rôles in relation to a subject and to challenge the subject to assume certain counter-rôles. Here, too, must be included all the inner frames of reference within the director, and their relationship to the inner frames of reference within the subject and the auxiliary egos who function in the problem. We must know, for instance, what prompts the director to select certain auxiliary egos and reject certain others in the solution of a particular problem.

In this paper we shall limit the analysis of the director to the general and formal pattern which, we have found, is

not without bias in spite of the fact that it has become almost a ritual. Long before the director could subject himself to analysis by the group of people who compose the psychodramatic audience at any given time--regardless, indeed, of whether or not he does so subject himself--he is nevertheless continuously exposed to observation and analysis by this group. A scientific approach to this problem of analysis has been made, and the reactions of every one of the participants to the director's procedure have been determined. The director was induced to reveal the motives underlying his actions, and the participants were asked to put themselves in his place and report their own reactions and inclinations, just as if each one of them were the director. A comparison of the various points of view brought interesting results. It was seen that three major patterns of the director's actions were scrutinized: (a) the "interview-position," that is, the position in which he opens a session and interviews a subject, (b) and (c) the "observer-position" and the "spectator-position."

The Interview-Position. The first function of a psychodramatic director is to get the session going. In most cases this is done by an interview with someone selected from the group of spectators. This person may be a subject who is to be investigated or a patient who is to be treated. In either case, the position which the director takes up must be a natural one and one which implies an acknowledgment of the whole psychodramatic situation: the group, sitting in the audience from which, at any time, anyone may be called upon to function on the stage, and the setting which combines the audience and the stage, with its three levels and its balcony. The position most usually adopted by the director at this juncture is a seated one at the center point of the second level of the stage. Whereas this position is a natural one to assume, it may be well to inquire as to the motives of the director for assuming it and to check the reactions it has upon an average group of twenty people in the audience. The essentially practical reasons for assuming a seated position on the second level of the stage at approximately its center point are the following. The director is, in this position, relaxed. Sitting as he is on the second level, he finds that the upper level's edge presents a convenient rest for his elbow and that he can place his feet comfortably on the first, or lower, level. Inquiry among the group of twenty spectators brought the comment from each of them that they, too, would assume this particular position and that the relaxation which this position affords the director had

a relaxing effect upon each of them. They volunteered the opinion that, if the director were to stand, they themselves would reflect the tension and formality of this position--perhaps because of the fact that they, at the time, would be sitting. Another practical reason for choosing the second level--as opposed to the lower level--is that here the director is easily visible to everyone in the audience. From the point of view of the director, this interview-position has the advantage that when he calls a subject to sit beside him for the interview, both are on the same level--they are "equal." This is particularly important when it comes to the treatment of a mental patient. In psychiatric work, there is often a feeling of coldness or distance between the patient and the physician. This position places them face to face--as man to man, so to speak--with no physical or symbolic barriers between them, on the same level.

The stage at the Psychodramatic Institute has three levels. The upper one of these is where most of the action takes place--where the actual psychodramatic process comes to fulfillment. Consequently, from the point of view of symbolism, any preparatory interviews do not belong on that level and it is entirely logical that they take place on some other level: the second, for instance. This choice of the second level for the interview is therefore due--at least, in part--to the construction of this particular psychodramatic stage. It is quite conceivable that another stage might have either fewer or more levels. In which case, the logical level--either from practical or theoretical considerations--might well be some other level than the second. Likewise, it must not be set down as a hard and fast rule that the director must be seated during the interviews. With other directors, or with stages of different construction, the interview might take place with both the director and the subject seated at a desk or a table, or in seats in one of the front rows--or they might find it more suitable to remain standing. However, with a stage which has three levels, such as the one at the Psychodramatic Institute, it has been agreed by both directors and spectators that the warming-up process to the whole psychodramatic process, as well as to the various scenes to be acted out, is most efficiently carried out when the director sits at the center of the second level (as described above), with those whom he is interviewing at his side on the same level of the stage. It is this position to which the director returns at the end of every scene for analysis or for the purpose of warming up the subjects for the following scene. This has the effect of a recurring pattern which

which punctuates the succession of the scenes acted out on the stage proper. Here the director can directly assist in the process of building from climax to climax in scene after scene until the desired effect is reached. His function in this position can act like a bridge for the subjects and spectators alike from one scene to the next. It can also serve a purpose almost equally valuable as a bridge back to reality from some highly emotional or symbolic scene which has been played upon the higher level of the stage.

It was with the discussion of the position of the person to be interviewed--in reference to the psychodramatic director--that the question of individual bias arose. The director expressed a preference for having the subject sit at his right. This preference was so strong that he would not function well if the subject were on his left. He stated that to have the subject on his left impeded his process of warming up toward this subject; he could not begin the interview well nor could he carry it along with the necessary consistency and drive. Most of the spectators agreed that, if they were functioning as the director, they would exhibit the same preference; three, however, felt that they would prefer to have the subject on their left. Here, obviously, serious questions as to the subject's point of view in this matter could be raised. For instance, a given subject might, in order to foster his own warming-up process, need to be on the director's left.

Thus it can be seen that a bias--from the point of view of the director, the subject and the spectators--can become an element in a social investigation. Like the other considerations, it must be examined and allowance made for it. In the particular situation which we are outlining here, it can be seen that three kinds of bias were active: aesthetic, ethical and psychological. As an example of aesthetic bias, the director and a certain number of the participants may feel that they function at their best in just such a theatre setting as is provided by the Psychodramatic Institute; others may be made uncomfortable by it, and demand for satisfactory performance a setting of another type. Ethical bias may lead some of the participants to reject the assumption that the top level of the stage is the proper place for the true psychodramatic action--that the balcony is symbolic of the desire to perform as a hero or a messiah. A definite preference for having the subject on one's right during the interview is an example of psychological bias.

The Observer-Position. In this position the director stands on the audience level at the right of the stage,

close to the wall. This affords him a close view of the stage and a full view of the entire spectator-group. Generally, he puts his right foot on the edge of the first (lowest) level, which has the double effect of affording him some rest and turning his body to the left so that he is able to see both stage and audience without apparently changing his position. This position is particularly adapted for the close observation which is required in the mirror technique³ and in the study of spectator catharsis.³ From this position, the director can step up into the action and speak directly and forcefully to those taking part in a scene; he can move from one to another, as a dynamic agent, inspiring or checking their actions.

The Spectator-Position. A third position finds the director sitting in the front row. Here he is somewhat removed from active participation or interference with what is going on on the stage: he is the spectator, concentrating upon the action. Quite often he calls a subject to sit beside him in order to assist the warming-up process of this particular subject by explanatory remarks. Here again, the subject is put in a position of equality with the director: they are co-spectators of the action. It frequently happens that a resistant subject can be warmed up to the point of action, after other methods have failed, by encouraging and reassuring remarks from the director while a pertinent scene is taking place on the stage.

The above three positions for the psychodramatic director have been to some extent analyzed and discussed at the Psychodramatic Institute, as a part of a series of investigations into the function of the director as a social investigator. Further aspects of the problem will be taken up at another time. However, it is significant to note that the very essence of the psychodrama would be lost if any of these positions were recommended for rigid adherence. The director must at all times--just as must the auxiliary ego--be ready to adapt his positions and movements to the exigencies of the various situations as they appear. He must not, for instance, insist on maintaining the interview-position when a subject is resistant, and will not leave his seat. On such occasions, the director gets up and walks over to him and urges him to come up and sit by him. If not immediately successful, he may

³J. L. Moreno, "Psychodramatic Treatment of Psychoses," *Sociometry*, Vol. III, No. 2, 1940, p. 122.

return to his place on the second level of the stage and proceed with the session, working with other subjects, or wait until some significant scene has been started on the stage and then go and sit by the reluctant subject in the audience.

From some of the foregoing it might be deduced that the director has a tendency to develop a persistent pattern and to impose it upon the subjects, regardless of whether they like it or not. However, the subjective element in this tendency--perhaps the director's own bias--should be carefully scrutinized in every individual case with a view to weighing the effect which it may have upon the beginning, the course and the results of the whole psychodramatic process.

An analysis of all these positions has disclosed a number of significant subjective factors in the director which interfere, in part, with the pattern and distort the treatment and the results. They represent, as a totality, what can be called the "psychodramatic error" injected into the situation by the personality of the director.

Such an analysis of the director has two results. First, it gives us a clear picture of the limitations of the director. The director, too, can profit by this process, and his limitations can be carefully considered in an objectified presentation of his function. It may even happen that his limitations form a basic error in his performance and thus constitute an unsurmountable barrier to correction. Secondly, some or all of his limitations may be open to correction by means of spontaneity training. Increased flexibility may be produced and he may grow to be able to give all his subjects a maximum opportunity of expression, always directing a situation in such a fashion that it meets the needs of the subject first of all, and his own afterward.

ANALYSIS OF THE AUXILIARY EGO

The auxiliary ego cannot be analyzed as a social investigator except while he is in operation--functioning not as an observer but as an acting agent. He is sent out on the stage by the director with instructions to portray a certain rôle and, at the same time, to observe himself in action very closely; to register continuously, as he warms up to the rôle, what this rôle does to him and what he does to it. While his experiences are still warm immediately after a scene, he can record his own reactions. Thus, the auxiliary ego represents a new tool in social investigation. Here, the participant

observer becomes also an "observing participant." His work consists in taking on a rôle--the rôle of a particular person or any rôle required by this person as a counter-rôle. It has been suggested⁴ that "the method of empathy seems to be one of the basic principles in the technique of psychodramatics." A careful analysis of the auxiliary ego function shows that empathy alone is not able to provide a leading clue to what is taking place in the psychodramatic situation. According to the theory of empathy formulated by Theodore Lipps,⁵ the investigator "feels himself into" the subject's attitude but the investigator remains in a passive rôle--the rôle of spectator. He is able to interpret "some" of the behavior of the spectators of a psychodrama⁶ but the production of the rôles which an auxiliary ego develops cannot be explained by empathy. Concepts like "spontaneity state," "the warming-up process," "tele" and the "configuration of rôles" are necessary for a proper interpretation. The auxiliary ego in action is not only feeling but doing; he is both constructing and reconstructing a present or an absentee subject. Often it matters little whether the reconstruction is an identical copy of a subject or whether it carries merely the illusion of that identity, just as in the arts, where an expressionistic or surrealist painting is far from being a copy of a natural setting, yet may project the dynamic essence of the setting much more impressively than would its identical copy.

At this point we can see that the auxiliary ego brings to the function of the social investigator a quality which is impossible to the investigator in the natural sciences. The investigator of physical phenomena, for instance, can observe his own reactions in the course of the study of astronomical events, let us say, but he could never transform himself into a star or a planet. Nevertheless, this is exactly what he would have to do if he were to try to reproduce the auxiliary ego technique in the domain of astronomical observation. The natural scientist may claim that such a proposition is entirely unnecessary in his specialty, that the field of exploration is fully resolved by the operations which are already in use. He does not have to become his own "guinea-pig" when he studies the movements of stars and planets, but in the social sciences

⁴Paul Horst and associates, "The Prediction of Personal Adjustment," Social Science Research Council, 1941, pp. 223 and 224.

⁵Theodore Lipps, "Das Wissen von Fremden Ichen," *Psychologische Untersuchungen*, I, pp. 694 and 722, 1907.

⁶J. L. Moreno, "Mental Catharsis and the Psychodrama," *Sociometry*, Vol. III, No. 3, 1940.

the auxiliary ego procedures are well on the way to overcoming the century-old antinomy between the natural and the social sciences.

The bias of the auxiliary ego--his social and cultural limitations--cannot be studied except in the light of his actual work. A full case-illustration is therefore necessary in order that we, and the auxiliary ego, as well, may check from point to point the varying errors which enter into his rôles and counter-rôles in the course of the psychodramatic procedure.

Just as the psychodramatic director must at all times be aware of himself and his relation to the subject or patient, objectifying himself continually as the process of investigation of the subject goes on, he must also be keenly aware of the abilities and limitations of the staff-members who are to function with or for the subject as auxiliary egos upon the stage. His best approach to this knowledge is gained by spontaneity tests.⁷

By means of these tests, staff-members can be classified in two ways. The director will know the range of rôles for each individual, including himself, as well as the type of situation in which he shows the most spontaneity. Furthermore, variations in behavior-patterns can be noted and taken into account by the director when he selects the staff-workers who will work in a given situation or with a given subject.

Basically there are three types of rôles, any one of which the psychodramatic staff-worker may be called upon to portray. He may act the part of a real person in relation to the subject; he may represent a character whom the subject imagines; or he may be called upon to project a part of the subject's own ego.⁸ Whether this rôle is real, fictitious or symbolic, the staff-worker should endeavor at all times to identify and integrate his portrayal with the mental processes of the subject. The proof of his success is the subject's acceptance of him in the rôle. Once this has been accomplished, the staff-worker becomes an auxiliary ego; and since he also represents an extension of the aims of the psychodramatic director, he is now a tool with which the latter can accomplish much in the way of social investigation or mental therapy. In order to demonstrate clearly the way in which a trained

⁷Directions for giving these tests, as well as some sample results will be found in: J. L. Moreno, "A Frame of Reference for Testing the Social Investigator," *Sociometry*, Vol. III, No. 4, 1940, pp. 317-327; and "Who Shall Survive?" pp. 176-191.

⁸A description of this process, known as the "double-ego" technique will be found in a subsequent portion of this paper.

auxiliary ego functions in a problem on the psychodramatic stage and also to show the actual mechanisms involved in the techniques employed by the psychodramatic director in his use of this delicate tool, we are giving here a case-illustration, an obsessional neurosis which was treated at the Psychodramatic Institute.

CASE-ILLUSTRATION⁹

William is a likeable, fair-haired youngster of eighteen. He seems quiet and rather well-mannered, and his intelligence is well above the average for his age. In a number of preliminary interviews with the director, William has displayed remarkable honesty, and this trait, as we shall see, carries over onto the psychodramatic stage.

The problem which he has brought for treatment is a severe form of obsessional neurosis. William thinks of people dying. He has vague images, not of the people themselves, but of things related to their deaths--such as funeral parlors, cemeteries, and the like. He develops a feeling of anxiety, and in order to combat this he employs several different devices. He coughs loudly and frequently, thereby hoping to disrupt the unpleasant train of thought. However, in the meantime, this has disturbed the entire household, and the coughing is not at an end. Out of this primary cough arises a secondary cough which is almost a nervous reflex, and following this, William begins to cough because he is hoarse--a tertiary stage. This cycle may go on for several days at a time.

William also seeks relief in loud talking, usually swearing at the images which disturb him. He seeks to drive them away by a name-calling process, but in doing so he upsets all the people with whom he lives. Sometimes he starts to shout vile imprecations while walking through the streets. More often he is at home, and the noise disturbs everyone in the house. Patterns of profanity tend to creep into his ordinary conversation. His parents are continually having to take him to task, and he gets the name of being a "bad boy."

One method which seems to bring him relief at times from his feeling of anxiety is to take a bath. The disturbing factor here is again the annoyance which he causes the other members of his social atom, for he frequently feels it necessary

⁹Grateful acknowledgment for the stenographic records of this case is due to Mr. Joseph Sargent and Mr. and Mrs. Ward H. Goodenough.

to take these baths in the middle of the night. Sometimes he is content to let the water run, and the noise of this is sufficient to take his thoughts away from the unpleasant things upon which they have been lying. Here again we see the inevitability of disturbance to others.

All of these manifestations, and the resultant criticism of his behavior, have brought William to a point where he fears the return of these unpleasant thoughts rather than the thoughts themselves. His feeling of anxiety has become a fear of fear itself. He becomes subject to this fear whenever he passes a funeral parlor or a cemetery, reads a word which has unpleasant associations, and the like. His thoughts become a continual battleground on which part of his mentality fights back at the fears engendered by the other part.

After a short interview with William, the psychodramatic director selects a staff-member to act as auxiliary ego in representing William's outward self, and tells William to portray his own inner thoughts. This is known as the "double-ego" technique.¹⁰

The preparation for this scene takes five minutes. William is not sure about the role which he is to portray. The staff-member has never met him before, and tries to get him to describe the processes of thought which he undergoes at these times. William, who seems most anxious for the portrayal to be an honest one, keeps repeating that he cannot see the point of the scene, and is persuaded by the staff-member to "go ahead and act whatever role and situation comes into your mind."

A scene is finally chosen in which William is walking past a funeral parlor on his way to the club. He describes this to the audience:

¹⁰"In obsessional neuroses and in some psychotic conditions which display symptom-patterns of this sort, the following technique has been found to bring relief: The patient's two egos, so to speak, are portrayed on the stage. The surface ego--that face of himself which he manifests in ordinary life and with which he is commonly identified--is acted out by an auxiliary ego. The deeper ego which is invisibly torturing and trying to defeat the "official" ego is acted out by the patient. The surface ego....not only gives expression to the patient's ordinary, superficial conduct, but fights back at the deeper ego..... The result is an objectification of the violent fight going on between the two alternating factors in the patient's mind." J. L. Moreno, "Psychodramatic Treatment of Psychoses," *Sociometry*, Vol. III, No. 2, 1940, p. 124.

William: This scene is at the intersection of two streets in New York. I am walking down the street to the club to have a swim and I am just rounding the corner. (The scene commences. The staff-member is now functioning as an auxiliary ego. He follows William like a shadow as he walks around the circular stage. He tried to copy William in everything but speech, and here he is forced to push the dialogue in order to stimulate his subject.)

Aux. Ego: I wonder who I'm going to meet today?

William: I see Jim down there ahead.

Aux. Ego: I've got to get in some work at that racing start, today.

William: I always was afraid of the water. I'll never learn to dive and swim.

Aux. Ego: There's nothing wrong with the water. It's perfectly safe. The only thing is, I can't seem to let go of the edge of the pool.

William: Two more blocks and I'll be there. I guess I'll walk a little faster.

Aux. Ego: I wonder what those fellows up ahead are doing? Four or five, aren't there?

William: (He is now opposite the funeral parlor.) I won't look over there. I've got to do something. I guess I'll concentrate on going swimming. I don't want to spoil the whole day. It will if it keeps on like this.

Aux. Ego: I'd better not look over there.

William: (Looking upward) It's getting cold--I hope it doesn't rain. Ha! (obvious relief) I'm past there already. There's the club ahead, there. When I get there I'll be safe. There will be nothing to disturb my imagination, there!

Aux. Ego: What happened with those cars back there? I heard the brakes, but I'd better not look.

William: If I hurry in--and get into the pool--I'll be all right. (The scene ends here. William seems relieved.)

The psychodramatic director asks William whether, during the scene, he did not feel the urge to cough--as it certainly would have happened in real life. William claims that he felt no real anxiety during the entire scene. Another scene is tried, without any preparation, in which William is reading a newspaper. The results are similar to those in the preceding scene. William avoids all but the most obscure references to the things he fears. When the psychodramatic director interrupts to ask him why he does not swear or cough, he explains

that he does not have any feeling of panic. He says that he is not "warmed-up" to the part.

This situation on the psychodramatic stage may be compared to that which takes place inside a gasoline engine at the moment when the starting pedal is pressed. The auxiliary ego tries to supply the spark--he tries to bridge the gap which exists between his own mental processes and those of the subject. If he succeeds, it ignites the fuel of ideas, and as long as fresh ideas continue to be supplied, the spontaneity remains on a high level. Then, just like the driver whose engine has commenced a comfortable hum, we may expect progress.

In the analysis immediately following the two scenes, the psychodramatic director makes this comment: "William wants to work himself up! He must be encouraged so that he may be able to come to a complete presentation."

On the stage, William does exactly what he would to in real life--he avoids all references to or thoughts of those things which create in him this deep panic.

During these two scenes, the auxiliary ego has had an opportunity to see which ideas could elicit responses from William, and which seeds of thought fell on barren ground. Therefore, he can guide his actions in future scenes accordingly.

William has attempted, for the first time, to portray his obsessions on the psychodramatic stage. He has failed, it is true, but in the very moment of failure he recognizes that the fault lies largely with himself. He admits this when he says that he is not "warmed-up," that he "cannot seem to act the part." He does not realize it at the time, but this is actually a part of the process by which he will become "warmed-up" in the future. He is beginning to get an idea of what is expected of him on the psychodramatic stage. He has had some experience, however slight, in one of its most difficult techniques. Gradually he will be able to act out, on a psychodramatic level, those fears from which he flees in actual life. The scenes in which William has appeared, if taken as a part of this process, cannot be deemed failures.

Now the psychodramatic director tries another tack. His reasons were given in a discussion which followed the scene, and are well worth repeating verbatim:

"When a person has a clear delusion--if it is really clear and systematic--the person may be able to give a picture of what he experiences which is clear in every detail. But when we are dealing with people who have nothing but a rudimentary idea of their delusions, the auxiliary egos are at sea as to what to do. Then the technique is to increase the

proportions of their ideas--not to present mere copies--insofar as we have been able to discover them."

The psychodramatic director gets William to describe the undertaking establishment which he passes so often, and the sight of which disturbs him so greatly. Then he selects two staff-members to portray the undertaker and his wife. He tells William to direct the scene by telling the actors how he would imagine it.¹¹ William, however, claims that he has never allowed his fears to go that far and therefore has no mental picture of what goes on inside the funeral parlor. Consequently, the psychodramatic director instructs the staff-members to go ahead on their own and depict not a copy of a real undertaking parlor but a wholly imaginary one, with every detail magnified and exaggerated. The purpose is to attempt to depict an undertaking establishment which will confirm William's fears of what a real one must be like.

The result is a macabre performance tinged at all times with the grotesque. The staff-workers are highly imaginative and, gradually, four or five corpses take ghostly shape on the stage as the actors make physical comments and comparisons, and, now and again, a grimly humorous remark. Several spectators become extremely uneasy during this scene,¹² and William is among them. Still, when the psychodramatic director questions him after the conclusion of the scene, he says that he had never allowed himself to think about the life within a funeral parlor. Two other scenes are improvised by staff-members, portraying happenings in a funeral parlor, and William, as a spectator, is given a picture which he might have imagined, had his fears permitted him to go so far. This

¹¹The directorial method here employed is known as the "projection" technique. Cf. J. L. Moreno, "Psychodramatic Treatment of Psychoses," *Sociometry*, Vol. III, No. 2, 1940, pp. 122-123.

¹²The reader who is interested in this phase of the psychodrama will do well to consult the following articles: J. L. Moreno, "Mental Catharsis and the Psychodrama," *Sociometry*, Vol. III, No. 3, 1940, pp. 209-244, with special reference to the section headed: "Spectator and Group Catharsis," pp. 236-240; and P. T. Hodgskin, "Group Catharsis with Special Emphasis upon the Psychopathology of Money," *Sociometry*, Vol. IV, No. 2, 1941, pp. 184-192, with special reference to the section headed: "The Effect of the Psychodramatic Session on the Group," pp. 188-190.

Moreno postulates the laws which govern this spectator reaction and discusses possible therapeutic uses of it in large institutions. Hodgskin takes a single case and obtains an account from each spectator of his own reaction to a certain scene.

technique gives him something which he has never been able to produce by himself, either consciously or unconsciously. It furnishes a basis for future conjecture on his part.

In the discussion following these scenes, the technique which has been employed shows its first exploratory effect. A hitherto hidden piece of information is forthcoming from William--he has actually met the undertaker who runs this funeral parlor with the exterior of which he is so familiar. Up to this time William has persistently denied knowing him, but now it appears that he has met him and that the incident occurred at a gas station two blocks away from the funeral parlor. William is at once requested to portray this scene, with the aid of the same auxiliary ego with whom he worked previously.

It was in this scene that the auxiliary ego was first able properly to perform his function for William. Indeed, he also acted as a "starter" for William in the preparation, as well as working with him in the scene which followed.

The scene, as described by William, contained two or three lines of dialogue and would not have consumed more than thirty seconds at most, had it been played in this manner. William protested that he could not see what the psychodramatic director would be able to get out of it. The auxiliary ego, however, persuaded him to allow the scene to continue on beyond what actually happened, pointing out that the director would like to know what William's reactions might have been, had he had a longer conversation with the undertaker. William finally agrees to this and the following scene takes place:

The Scene: A Gas Station

William: played by himself.

The Undertaker: played by the auxiliary ego (William is in the gas station when the undertaker appears. The latter puts money into the cigarette machine.)

Aux. Ego: Have you seen the attendant around anywhere?

William: (Staring at the ground) I guess he's out back, working on a car.

Aux. Ego: He's never here when I want him--always out back or out to lunch.

William: I don't know. I guess so; I'm around here a lot of the time.

Aux. Ego: Do you do any work here?

William: No, just hang around.

Aux. Ego: Well, say--I need a part-time assistant over at my place. How would you like to work for me? (William begins to shake his head slowly, but doesn't

say anything.) It would only take a couple of hours in the afternoon or evening--running errands and answering the phone. I could afford to pay pretty well for your time.

William: Well--I don't think I'd have the time. I have homework.

Aux. Ego: (Interrupting) Oh, you'd have plenty of time for that at my place. I just need someone to be there while I'm out, and to do occasional errands and odd jobs. You'd have plenty of time for your homework.

William: Well--I have a sort of job already--running errands for people on the block.

Aux. Ego: You don't make much at that, do you? I could afford to pay you ten dollars a week, to start.

William: Well, I do pretty well on this other job.

Aux. Ego: How much do you make a week?

William: Oh, three, four--sometimes five dollars a week.

Aux. Ego: But I could pay you ten, and you'd be sure of it. Ten dollars a week--steady money--is not to be sneezed at. That's for just being around to answer the phone and run a few errands. You'd have plenty of time for yourself and your homework.

William: Well, I don't know. You see, these people on our block sort of depend on me to do their errands. I wouldn't want to disappoint them.

Aux. Ego: I realize that, but after all, when you can make more than twice as much, and be sure of it! Why, I should think you could tell them and they'd understand. (During this speech, the auxiliary ego tries to put his hand on William's shoulder. William pulls away, avoiding his touch.)

William: Well, they kind of count on me, and I wouldn't want to disappoint them.

Aux. Ego: Sure you won't change your mind?

William: No, I wouldn't want to disappoint those people.

Aux. Ego: Well, in case you do change your mind, let me know. You know where my place is, don't you?

William: Yes, but I don't think - - -

Aux. Ego: Fine! Let's see, you're William--William Morrow, aren't you?

William: (Barely audible) Yes.

Aux. Ego: Yes, I thought I knew you. I had heard you were a good worker. That's why I wanted to hire you. You live right down the block, don't you?

William: (Pauses) Yes.

Aux. Ego: In case something comes up, I'll drop you a card or come down to see you. I really need an assistant badly and I may be able to pay a little more than ten dollars a week. I'll have to see. What number do you live at?

William: Right down the street. In the next block.

Aux. Ego: You're sure you won't change your mind? (William simply shakes his head and looks away.) Now, let me see. What number was that you said you lived at?

William: (After a pause) Sixty-five.

Aux. Ego: Fine, fine! I'll see you soon. In case you change your mind in the meantime, drop into my place. I'll be glad to see you.

END OF SCENE

Throughout the entire scene, William presents an astonishing contrast to his usual self. He looks at the auxiliary ego only once or twice during the dialogue. Most of the time he looks at the ground and occasionally he turns his head away. He is very nervous and plays with a chair which is on the stage. He keeps this chair as a bulwark between him and the auxiliary ego, and when the latter moves past it and attempts to put his hand on William's shoulder, he involuntarily pulls away.

Here, at last, we see the auxiliary ego finally accepted by William--in the rôle of the undertaker. William is afraid of this character and everything for which he stands, and his fear shows in his voice, his gestures, and even in the ideas which he expresses on the psychodramatic stage. He clings desperately to a flimsy excuse in order to keep from taking an excellent job. He does not want this job because he is afraid, but he does not want to admit this fear, either to himself or to his auxiliary ego.

In this scene, William has achieved a certain catharsis. The original meeting with the undertaker had consumed a few seconds, at most. In view of his actions on the psychodramatic stage, it does not seem possible that he could have subjected this man to any long-drawn scrutiny. The picture which he carried away from that meeting must have been a shadowy one, even as his fears have become shadowy things through his refusal to confront them. Here, on the psychodramatic stage, William is given an opportunity to study this terrifying creature at greater length. The undertaker is presented to him as a normal man, and many of the blank spaces

in the original picture are now filled in. The fear of the unknown has been replaced by knowledge. This is the first step and, indeed, the sine qua non for the removal of that fear.

The psychodramatic director now suggests a scene to take place in William's home. William is to be thinking about this encounter with the undertaker and his ego-conflict is to be portrayed by himself and his auxiliary ego. The latter must now make a complete volte face and become that part of William's mental processes which mirror the fears, while William himself is to represent that part which fights them.

During the preparation, William shows a great advance over his previous effort of this type. Before, he had been unsure of himself because he did not know what he was expected to do. Now, he knows almost exactly what is wanted, and his assistance is invaluable to the person with whom he is about to work.

Although he still cannot translate his fears into actions, he knows that certain things upset him, while others do not. He cites the scene which had been presented to him as one which might have taken place in his mind--the scene between the undertaker and his wife. He says that his fears do not lie in that direction, that their basis is not in the gory details of death, but rather in the idea which lies behind death. He says to the auxiliary ego:

"You can talk all you want to about bloody corpses without upsetting me. It's just words (which describe situations and rôles) like 'funeral parlor,' 'undertaker' and things like that that start me off."

Among other things, he tends to visualize scenes and people, like the funeral parlor and the undertaker, "...as if someone had suddenly turned on a hidden motion picture machine." This, too, serves to start these attacks.

The auxiliary ego suggests to William that he try to visualize the meeting with the undertaker at the start of the scene. And thus begins a scene which shows, for the first time, the staff-member functioning as the auxiliary ego in a scene in which the "double-ego" technique is used.

(At the beginning of the scene there is a pause. Then the auxiliary ego begins to talk):

Aux. Ego: --Funny! I can't seem to keep from thinking about his face. I keep seeing him again the way he was in the gas station.

William: I'd better not think about him.

- Aux. Ego: Yes, but I can't seem to stop. He was a funny-looking guy.
- William: Wanted to know where the attendant was. (This is said in a very surly tone.)
- Aux. Ego: Why wasn't the attendant there, anyway? He should have been.
- William: Why couldn't he have had the change in his pocket instead of having to ask for the attendant?
- Aux. Ego: Why did he have to come there, anyway? It's almost two blocks away from his place.
- William: He could have gotten his cigarettes in a cigarette place. Why did he have to come to a gas station to get cigarettes?
- Aux. Ego: Maybe the attendant is a friend of his. Or maybe he gets something else there..... (William coughs.)
- William: (Coughing) Why did it have to happen to me? Why me, of all people? (Coughs)
- Aux. Ego: He should have known the attendant was out back. He shouldn't have had to ask me. He has a funny voice, anyway.
- William: Why does this sort of thing always have to happen to me? (Coughs)
- Aux. Ego: And then he offered me a job. As if I'd ever take a job in his place!
- William: (Coughs) Better not think about that! (Coughs)
- Aux. Ego: But I can't help it. Just because it's an undertaking parlor is no reason why I should keep on thinking about it.
- William: I don't want to think about it.
- Aux. Ego: But I do. Those brass plates. "Funeral Parlor."
- William: In gold letters.
- Aux. Ego: I wonder why they shine them so? You'd think they would paint them black, instead of making them so bright.
- William: (Coughs) It's nothing to brag about. (Coughs) Well--'better not think about it. 'Guess I'll try to read this newspaper.
- Aux. Ego: Oh--oh! Don't want to read that page!
- William: No sir! I'll turn it over and see what's on the next page.
- Aux. Ego: Who wants to read funeral notices, anyway?
- William: (Coughs) There's nothing to them, anyway. (Coughs)
- Aux. Ego: (He coughs--which brings an immediate responding cough from William.) That first one was Charles B. Rogers. I wonder what he was like?
- William: (Coughs) Better not think about him. (Coughs)

- Aux. Ego: They had a picture of him.
 William: Oh, why did I have to see that?
 Aux. Ego: He's a funny-looking duck. Kind of like that undertaker I met in the gas station.
 William: There I go again! Why must I think about him? Or gas stations? Now, every time I think about gas stations, I'll start thinking about him again. (William is quite excited during this speech. His voice is much louder than it has heretofore been.)
 Aux. Ego: And that place of his! (Coughs) I wonder what it's like inside?
 William: No, I don't. I don't even want to think about the outside! (Coughs)
 Aux. Ego: I suppose his friends know what it's like inside. I wonder if he lives in there? (William coughs)
 William: I wouldn't want to live in there! (Coughs)
 Aux. Ego: I wonder if he has any friends? I suppose he must have. I wonder what they're like?
 William: I suppose even an undertaker has to have friends. I don't want to be one of them! (Coughs)
 Aux. Ego: No sir! I don't even want to go near him!
 William: (Coughs) I don't even want to think about him!
 Aux. Ego: Or his place.
 William: Guess I'll get up and go for a walk. Anything to get my mind off him! (They get up and turn to go left.)
 Aux. Ego: Oh--oh! I don't want to go that way!
 William: (Turning right, instead.) No sir! I'll go this way!

END OF SCENE

Throughout this scene, neither William nor his auxiliary ego used many gestures. Except for a desultory bit of pantomime when he was supposed to be reading the paper, William spent the entire time rubbing the palm of his left hand with the thumb and fingers of his right. The auxiliary ego attempted at all times to duplicate these actions. William used this continual rubbing to alleviate the tension caused by his anxiety.¹³ The auxiliary ego, who had started to use this gesture for no reason other than imitation, found it an excellent antidote for the tension which he, too, felt as the scene progressed. William's tension was caused by anxiety which stemmed from his fear of

¹³What follows here will be of interest to readers of "Developments in Social Psychology, 1930-1940," Sociometry Monograph No. 1, 1941, by L. S. Cottrell, Jr., and Ruth Gallagher.

the ideas which were being presented to him. The auxiliary ego was also laboring under a strain, but his anxiety arose from a different source. He was trying to fire each speech at William the instant the latter ceased uttering each one of his lines. In order to do this, he had, like a chess-player, to keep thinking several moves ahead. He was denied, however, the advantage of taking whatever time he needed. He had always to be prepared, and several times he was forced to discard whole trains of thought while he shifted to meet William's changing ideas. Despite this basic difference in attitude, the same physical release, i.e., hand rubbing, served as an outlet for both.

The auxiliary ego coughed twice during the scene. This was done deliberately, in order to see how it would effect William. The first time his auxiliary ego coughed, William immediately echoed him. Afterwards, this procedure seemed to have no effect. And what of William's own coughing?

In the interview immediately after the scene, the director asked William if he was aware that he had coughed. William said that he had coughed deliberately, in order to make the scene seem real. But when asked how often he had done so, he replied: "Three or four times." As a matter of actual fact, William coughed eighteen times.

Here, on the psychodramatic stage, we have seen William reproduce the actual physical symptoms of his obsession. We would seem to have forced him into a relapse. What is actually taking place is a channelization of his fears.¹⁴

This scene has been the first step in this operation. In order to continue it, the psychodramatic director selects a final scene for the session. We have seen William's acceptance of the production on the stage of what goes on inside an utterly imaginary funeral parlor--something which he had not even dared imagine for himself. In this final scene, William is asked to take the logical next step: to go inside this imaginary funeral parlor and accept the job which he was offered in the gas-station scene--actually to inhabit this imaginary setting.

While preparing the scene with the auxiliary ego, William at first displays extreme reluctance. He points out that he would not take the job for a salary two or three times as large as the one offered. When pressed, he admits that he would not take it for \$100 a week; later he amplifies this figure to \$1,000,000. The auxiliary ego persuades him to accept

¹⁴See J. L. Moreno, "Psychodramatic Treatment of Psychoses," *Sociometry*, Vol. III, No. 2, 1940, p. 117.

the job by saying that this is "intended as a test." Here we see the cumulative effect of all the scenes in which William has thus far participated on the psychodramatic stage. In the first part of the session, he would not have consented to this "test." Now he can be persuaded to try it, although he does so with obvious reluctance and a certain amount of trepidation. The scene begins:

Aux. Ego: Why, hello, William. Glad to see you!

William: (Staring at the floor) Hello.

Aux. Ego: Well, well! So you decided to change your mind about taking that job, after all! That's fine!

William: I guess so. What do I have to do?

Aux. Ego: Nothing, right now. Just sit down and make yourself comfortable. Would you like to look around, first? Come on! I'll show you the place. (The auxiliary ego, as the undertaker, shows William where various things are located in the office; then takes him to a basement room, where the bodies are kept until the funerals. William stops at the point which represents the door of this room and contents himself with peering vaguely inside. Then, the auxiliary ego points to a wall-telephone.) This is an extension of the upstairs 'phone. In case the phone rings and you're down here, you can answer it without having to go upstairs.

William: But I wouldn't be down here, would I?

Aux. Ego: Well, no. Probably not. But you might be down here doing some odd job or other, and it would save you the trip upstairs.

William: I thought I was just supposed to run errands and answer the phone. I thought I would have time to do my homework.

Aux. Ego: So you will, so you will. It's just that once in a while there are a few things to be done down here. You won't mind that, will you?

William: I guess not.

Aux. Ego: (As they are returning to the "office") Once in a while, I may need a hand bringing in the bodies, but that's not very heavy work. (Here William starts to say something, but the auxiliary ego interrupts.) They come in light pine boxes and they don't weigh very much. (William walks almost to the edge of the stage and stares at the back of the audience. The auxiliary ego continues): Right now there's nothing to do. (William sighs and returns,

sitting down at the desk.) I guess you can sit here and start in on your homework. (The auxiliary ego now goes back to the basement room and opens one of the coffins.) Say, William, could you bring me some of that formaldehyde? There's a bottle on the shelf over there. (William goes to the shelf and takes down a bottle. He hesitates, but then the auxiliary ego speaks again): Just bring it down here to me. (William does this, and starts back upstairs again.) Just a minute. Don't go, yet. I can use a hand here. (He pantomimes filling a syringe with formaldehyde.) Now, I want you to take the wrist here, and press so that the vein sticks out--like this. (He pantomimes this action.)

William: I'd rather not.

Aux. Ego: Why not? (Pause.) Oh, come on! It won't bite you!

William: (Barely audible) Show me how you did that, again.

Aux. Ego: You take it like this and put one finger here and one here. Then you press down, like this. (William bends down very slowly, and copies the pantomime. His neck is very stiff and he tries to hold his head as far away from the "corpse" as possible.) That's fine! Kind of cold, isn't it? (William lets go of the hand.) Hey! Wait till I'm through! There we are--nothing to it, after all--was there?

END OF SCENE

Here, at last, we have brought William to the very threshold of his fears. Here, on the psychodramatic stage, he has been shown the handiwork of death, and he has held the cold hand of a corpse in his. In talking with him afterwards, it was learned that he had been able to visualize the hand, at the time. His actions on the stage were convincing evidence of this fact, and the end of the scene brought him obvious relief.

Here, in this crucial situation, the interested spectator stands, as it were, on a peak. Now he can see clearly the road by which William has been brought to this point, and the direction in which he will now be led. The carefully organized and integrated plan which has been followed by the psychodramatic director becomes apparent.

William, in trying to escape his fears, had come to a mental cul-de-sac. A speech in one of his scenes shows us how fraught with discomfort that blind iter of thought must have been. In thinking of his meeting with the undertaker,

William cries out: "There I go again! Why must I think about him? Or gas stations? Now, every time I think about gas stations, I'll start thinking about him again!"

From this, one readily sees how impossible it was for William to maintain this position with regard to his fears. In attempting to close the door on them, he had left himself open to another set of fears which, by these chains of association, must some day have filled his entire mental world.

Therefore, the director commenced the treatment by coaxing William out of his hiding-place and bringing him face to face with the fears from which he was trying to run. In performing this difficult operation, the auxiliary ego has been an invaluable tool.

The psychodramatic director continued by presenting, again by means of the auxiliary ego, the reality which was underlying these fears. This presentation was made on a symbolic level to a subject who would not have been willing to receive it otherwise.

The psychodramatic director has shown us what can be accomplished by a well-planned and skillfully-executed use of this therapeutic tool.

The road that lies ahead in William's case is an interesting one. The reader can readily envisage him portraying the rôle of the undertaker, perhaps directing his auxiliary ego in the conduct of his calling.¹⁵ He may be called upon to act the part of a person about to die, or, possible, one who is already dead. He may even find himself cast as Death in a psychodrama which would strike at the very root of his fears.

However, it can be seen that whatever procedure is followed will tend to diminish the importance of the auxiliary ego's rôle. He (the auxiliary ego) will begin to be dominated by the subject, as the latter begins to master the fears which have held him in thrall. There will be less and less need for the auxiliary ego to function as a starter--perhaps none at all.

William, himself, will be able to take the corpse's hand in his and say with confidence: "There we are! Nothing

¹⁵An interesting comparison here is the treatment of a boy who was laboring under the delusion that he might turn, or be turned, into a girl. At a strategic point in this treatment, he was placed in the rôle of a psychiatrist, and an auxiliary ego, in the rôle of a man suffering from the same delusion, came to him for advice. A description of this incident will be found in the following article: J. L. Moreno, "Psychodramatic Treatment of Psychoses," *Sociometry*, Vol. III, No. 2, 1940, p. 123.

to it, after all--was there?" The psychodramatic director, with the aid of the auxiliary ego, has shown him the way.

DISCUSSION

The pattern of conduct or the method of approach which the director exhibits in the case illustrated above shows an important deviation from the regular psychodramatic procedure, which, as we know, makes the subject the chief source of initiative in the dramatization of symptoms. William had never been inside the funeral parlor which was a few blocks from his home. Indeed, he had never been inside any funeral parlor. He claimed to have no knowledge whatsoever of what went on in such a place. Interviews and analysis in the preparatory phase did not elicit any satisfactory information from him in regard to dreams or phantasies of any sort relating to this topic. He even violently objected to hearing anything about it. In this deadlock, the director turned to a method which may have projected some of his own bias into the treatment-situation; he, and a number of his assistants, became the source of initiative, instead of the subject. They constructed upon the stage the atmosphere of a funeral parlor in several variations, and let them pass before the subject's eyes, watching him carefully for reactions. By a combination of empathy into the subject's psychological life and a constructive ingenuity of their own, they produced, without any design on the part of the subject, something which he needed, although it was not of his creation. His own imaginative expectancy fell into step, so to speak, with one of these "atmospheres," and thus, by means of an experience which was just as much extra-conscious as it was extra-unconscious, the subject attained a very effective catharsis.

The social investigators in the case, the psychodramatic director and the auxiliary egos, found themselves, therefore, in a situation where they had created for the subject something which had not previously existed for him, and they were faced with the necessity of exploring the product of their own imaginations in order to compensate for a lack in the subject, thus consciously "manufacturing" a psychodramatic error.

It seems obvious that some sort of bias must operate in every type of social investigator, whether he be a case-interviewer, a participant observer, an intelligence tester, a psychoanalyst, a sociometrist or of any other category. It follows, therefore, that no experiment in the social sciences can be

entirely controlled unless and until the social investigator, himself, is explored and his bias brought under control. An attempt to accomplish this under laboratory conditions would be extremely difficult because of the lack of adequate motivation for both the investigator and his subjects to undertake such a program. A life-situation cannot easily be manufactured under laboratory conditions. In psychodramatic work, however, the very atmosphere and purpose require the presentation of life-situations, on one hand, and analysis of the total situation on the other. Psychodramatic work partakes automatically of investigating the social investigator because its major tools for treatment, the director and the auxiliary egos, cannot effectively be used unless they are continuously examined and maintained at their keenest temper. Therefore, the psychodramatic procedure presents itself as doubly fitted to investigate every type of social investigator in his natural setting--the case-interviewer, the participant observer, and the rest--and protect the results of his work from any admixture of bias.

BOOK REVIEWS

ZIPF, GEORGE KINGSLEY: National Unity and Disunity, The Nation as a Bio-Social Organism, The Principia Press, Inc., Bloomington, Indiana, 1941, pp. xix + 408.

What would be found if one studied man's social behavior by "the same ruthless objectivity" as a biologist uses in his field and proceeded regardless of whether that behavior was "noble" or "ignoble"? (iii). This is the sort of question the author raises at the outset. He then adopts an empirical approach (xi), and "the firm outlines of some very precise and yet bafflingly simple laws emerged ever more clearly from the accumulating data." (iii)

When the fifty largest cities in the United States in 1930 are arranged in order of the size of their populations, the author discovered that the second city was $1/2$ the size of the first (New York), the third city was $1/3$ the size of the first, the fourth city was $1/4$ the size of the first, and so on to the fiftieth city (Flint, Michigan) which was $1/50$ the size of New York. "The product of each community's size (S), when multiplied by its rank (R), remains fairly constant," says the author, "...but vary roughly between $5\frac{1}{2}$ and $9\frac{1}{2}$ millions...." (10) As a matter of fact, this product varies from a low of 5,402,574 (Cleveland, the 6th), to a high of 9,360,297 (Providence, the 37th), or over a range of 3,957,723, which is equivalent to 57.1 percent of New York's population of 6,930,446. Nevertheless this array of data are summarized in the equation, $R \times S = C$ (constant approximating 6,930,446). When the size of each of these communities and its corresponding rank are plotted on double log paper, the resulting series of points form a 45 degree line that is approximately straight. Similar tests are then made for other census data of the United States (44) and for Canada (22). In both countries the trend is toward a 45 degree angle at the beginning of the 1930 decade. The author discusses also possible fallacies introduced by arbitrary boundary lines and incorrect ranking of communities (27). Since the relationship of size and rank seems to approach a harmonic series: urban population = $1 + \frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n}$ (31), the properties of a harmonic series and variations from it are examined. A condition of "saturation" is that of a nation in

which the communities follow the proportions of a harmonic series (33). Departures toward convexity in the line of trend are called "surfeit," and toward concavity, are called, "deficiency." The concept of national "saturation" is discussed at much length with over-simplified hypothetical illustrations. The author then develops the additional concepts of "sub-saturation" (with a residue of population not in series), and "super-saturation" (not enough persons to complete the series). To fit this harmonic series to the conditions of simple social organization of pioneer days, as well as to modern industrial-urban economy, the author expresses his harmonic series as, $S_n = \frac{1}{1^p} + \frac{1}{2^p} + \frac{1}{3^p} + \dots + \frac{1}{n^p}$, where the exponent of p may vary from 0 (zero), for the minimal degree of social organization in a small community, to 1, for the modern industrial-urban community (93)

With respect to the last equation it is evident that the parameter (or variable ?) p is all important in explanation. Since this generalized harmonic series seems to describe "how" size and rank are related, the question arises of "why" this particular relationship. The answer to such a question entails making description more detailed by further analysis of factual data rather than of conceptual materials. It is possible, for example, that p is a dependent variable in a multiple regression equation of the form, $p = a + f(X_1) + f(X_2) + \dots + f(X_m)$, in which the independent variables consist of economic, social and cultural factors that require more exact description and measurement than the very generalized account in Chapters III, IV, V and VI.

Instead of such an analysis (which incidentally might prove to be very time-consuming and extensive) there follows a somewhat labored effort to explain the economics of transportation between communities as a way of accounting for this equation. In this discussion new terms are freely coined, "striation" (107), for example. This term seems to have a double significance, both as related to the economics of transportation and as to the sociological principles of human ecology. Data from India and Germany are displayed to illustrate this argument. In this way some historical trends in national evolution are "explained" by the harmonic series, as well as problems of international organization, and the distribution of consumer incomes.

In the opinion of the present reviewer the special contribution of this work is the discovery of a relationship between community size and rank expressed in the tendency to approach a harmonic series as an ideal limit. This is an empirical result of considerable interest, and the author is to be

complimented for his industry and care in critically examining this hypothesis. When, however, one turns to the theoretical explanation, the author's work is not so convincing.

The understanding of the reader would have been increased if the author had given evidence of some consideration of critical economic theory, since his statement "under static and ideal conditions of civilization" (128) reminds one of the economic theory of J. B. Clark, and his "system of automatic checks and balances" (144) seems similar to the classical economic theory of laissez faire, and his "equilibrium" sounds like the concept of current economic discussions. Furthermore, his discussion of values (152-3, 168-75) would have been clarified by attention to some of the principles developed by John Dewey in his Theory of Valuation. When the author says, in discussing national evolution, "...we may not say that one tool is inherently better or worse, more valuable or less valuable than some other tool except when both tools refer to the performance of some definite task within the givens of some definite social-economic system" (153), he seems to recognize that there is no way in which to assess in ethical or moral terms an entire socio-economic system because within each self-contained or unitary system the ethical or moral standards are themselves part of that system, and hence in no sense standards of independent reference. The problem of valuation is to break down the system in its entirety into component units or factors which are independent of those to be valued and yet part of the system, so that these may serve as standards of reference for evaluating the first group of factors. Standards of reference from outside a given social system always encounter the difficult problem of validation. Are these external values from another cultural system relevant? If the criterion of independence (taken for the sake of objectivity) is insisted upon, is mere externality the sine qua non of independence? Questions of this sort are implied but not explicitly stated on pages 153 to 157. In spite of "implications" of this sort, it seems apparent on pages 350 and 404 that the author is committed to a nationalistic thesis of unity and disunity.

On page 400 the author asks, "Why should nature be so infatuated with this harmonic series?" One asks, is nature or the author infatuated with the harmonic series? If scientific procedures and formulations are always and only a scientific observer's reactions to natural phenomena, then $S_n = \frac{1}{1^p} + \frac{1}{2^p} + \frac{1}{3^p} + \dots + \frac{1}{n^p}$ is the reaction of George Kingsley Zipf to social

phenomena! Again, "The author for his part believes that the series is implicit in the organization of space in a particular way." In justice to the author it should be stated that he recognizes on page 401 this mystical note in his interpretation of his data.

Throughout all explanatory efforts the author's occasional disclaimer of ignorance of previous work would be more convincing if citations had been given that could be verified rather than blanket references as is the case to Gestalt Psychology (footnote page 160). New terms and definitions are frequently coined by the author (33, 35, 49, 53, 58, 59, 103, 107, 114, 117, 135, 150, 163, 166, 176, etc.). New terms used to stand for distinctions discovered on the borderline of exploratory research are one thing, but when such personally coined terms seem to stand for concepts already named by previous investigators and generally accepted in the technical vocabulary of social science, the reader has reason to pause. The author has presented a novel arrangement of old data which would be more helpful if ordered to existing categories (by way of proof or disproof of these) than when described by newly invented categories.

A book of this sort with its original (Chapters I and II) and sometimes stimulating insights (73-80, 273-279), raises the question of the sources of social discovery. Do patterns of conventional research emerging from a successful tradition of procedures in field and method tend to channelize the next steps of investigation so narrowly that promising avenues of exploration are ignored or attention diverted from new and potentially successful solutions of old problems? Rather than dismay and incredulity at the emergence of novel inquiries or methods of investigation, a living science should welcome the new, provided only: (1) that it submits itself to the process of critical appraisal and verification, and (2) is so formulated as to build upon that which is sound in the recorded work of past investigators. The author explicitly welcomes examination of his work with a view to verification, yet the reader cannot help but feel that this process would have been facilitated by more evidence of knowledge on the part of the author of the existing literature of the social sciences.

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CHAPPLE, ELIOT D.: "Measuring Human Relations: An Introduction to the Study of the Interaction of Individuals." (with the collaboration of Conrad M. Arensberg) Journal Press Publisher, Genetic Psychology Monographs, 1940, 22, pp. 3-147.

This work is undoubtedly an important forerunner in the movement to treat human interaction operationally. The existence of a state of functional dependence in human relations is regarded to be "a hypothesis whose utility is abundantly demonstrated in our ordinary experience"--and the major part of the monograph is devoted to developing methods by which this dependence can be expressed in precisely defined measurements.

To obtain measurements of the interaction of individuals, the authors used recording devices which gave an accurate account of the durations of actions and inactions within events, and revealed the originators and terminators of interaction. From these measurements they constructed various mathematical statements of relationship, a kinship chart showing compound relations built up out of unit relations, and even an "algebraic representation of a hierarchy."

It is the aim of the authors to contribute to a science of human interaction which is "precise, abstract, and quantitative," and indeed they have succeeded, although the reader is sometimes left with the feeling that they have been too abstract and too quantitative. They seem to present only the barest bones of interaction, by mathematical operations which are at times so far removed from a concrete referent (even to the referent of their own measurements) that the reader is forced to build many of his interpretations out of his own operationally unanalyzed experience. This may be simply a matter of incomplete presentation--the subject could be expanded much beyond the limits of a 147 page monograph. Or it may be due to the difficulty one has in divorcing his diffuse experiential knowledge of human interaction from his approach to a new and highly abstract treatment of interaction. At any rate, wherever responsibility lies, one is left with the impression that precise communication is still an unsolved problem for the social scientist who would be operationally exact.

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WERTHAM, FREDERIC: "Dark Legend, A Study in Murder."
New York: Duell, Sloan & Pearce, 1941.

During the last few years, there has become apparent a process of cross-fertilization between the fields of psychology, psychiatry and sociology, fulfilling thus a need that only sporadically has been emphasized up to that time. The dialectic process that lead to specialization in scientific research, necessarily had to bring about the manifestation of its opposite, i.e., the necessity for the study of interlinking concepts that would finally lead to a better understanding of psychological, psychiatric and sociological problems. It is to this new scientific approach that Dr. Wertham in his "Dark Legend, A Study in Murder" contributes a work of outstanding value.

The case under study is that of a boy of seventeen who killed his mother some years ago. Seven years before, the boy's father had died in Italy, and the mother and the children had come to the United States, where they were forced to live in a crowded tenement section. On the question as to the boy's sanity, Dr. Wertham testified before the Lunacy Commission. On the grounds that the boy, Gino, did not know that the act was wrong, he was declared legally insane and committed to a State Institution for the Criminally Insane.

"Matricide is a disease of a patriarchal society. . . . No emotional conflict is a duel of opposing forces in a closed self-contained field. It involves the social forces that underlie all human development. Gino played the social rôle of the father, as he saw it. . . ." With this statement, Dr. Wertham unrolls the long overdue understanding and appreciation of the social factors upon which psychological mechanisms evolve. No school of psychology which overlooks, or is not able to appreciate the dialectical process in social evolution, and the extent to which such intrinsic social factors influence psychological processes, has the right of claiming knowledge of "psychodynamics." It is of extreme importance that Dr. Wertham emphasizes that the attitudes of the growing child to both parents are dependent not only on the sexual differences of both parents, but also on the social position of mothers and fathers within the family, and within society. The pattern of our social structure will influence the formation of the parent image, which therefore in childhood, will not always correspond to the real parent. Gino, being brought up in an environment that is typically patriarchal, will form a father image that will symbolically represent to him the image of adulthood and power. It will be this social position of the father, that will induce him to identify himself with this image. Thus, he considers

as the reason for the deed his responsibility for protecting the family honor. We do not believe that Gino's (Orestes', Hamlet's) hostility against his mother would have lead to this dramatic climax, if the rationalization of his conflict would not have been facilitated by the patriarchal concept and identification with it. Thus, we have to understand Dr. Wertham's statement mentioned above: "Matricide is a disease of a patriarchal society." The mother image, however, that is created by our patriarchal social structure, i.e., the "glorified rôle of subordinate passivity," may be enforced in life, but often arouses conflicts in the mother as well as in the son. It is especially the "Active Mother" that will contradict the traditional mother image, and thus will have to face difficult situations, among which hostile feelings on the part of the son might play a great rôle.

In discussing the dynamics that lead to the deed, Dr. Wertham mentions as one factor the tension caused by anxiety that tends towards release. The self-assertive and aggressive act brings the anxious tension to a head and constitutes a defense against a greater mental disorganization. The deed is considered as an expression of Gino's struggle to safeguard the core of his personality. To substantiate this interpretation, Dr. Wertham cites the tremendous sense of relief the boy felt after he had killed his mother, and the boy's statement, "I did not want to go crazy." Another factor that appears to be important to the author is the boy's lack of articulation, and he cites Gino's silence before the matricide. Part of the explanation why Hamlet does not commit matricide is attributed to, "Hamlet acts with words." Dr. Wertham states, "Words were not daggers to him (Gino), they were not his weapons, nor the weapons of the people he knew," and later, "Gino had been brought up among people whose answer to moral injury was a physical return of the injury." Another contributing factor Dr. Wertham sees is the lack of opportunity to change the environment, the lack of escape. The most important factor is a mental disorder called catathymic crisis. Catathymic thinking is a disorder of thinking in which thought processes lose their plasticity and become more and more rigid along definite lines as the result of repressed ungratified wishes, unallayed fears or any unresolved feelings. Catathymic crisis is a mental disorder, "psychologically determined,--not necessarily occurring in a psychopathic constitution. Its central manifestation consists in the

development of the idea that a violent act--against another person or against oneself--is the only solution to a profound emotional conflict whose real nature remains below the threshold of the consciousness of the patient.--The violent climax is reached as the direct result of the inner tension.-- The violent act has a symbolic significance over and above its obvious meaning.--" The author stresses the importance of the state of so-called "superficial normality" which follows the act in which the patient still sees the need for the violent deed in a wrong light and therefore still constitutes a danger for himself and his environment. The violent act is a defense against a greater mental disorganization. One cannot over-estimate the importance of Dr. Wertham's concept of catathymic crisis as a contribution to the psycho-pathology of action. And yet, it does not offer a satisfactory explanation for a more general understanding of the psychology of action. This understanding, the reviewer believes to have found only in Moreno's concept of action, which considers action as a performance in a spontaneity state. Moreno has clarified it in his "The Philosophy of the Moment and the Spontaneity Theatre" (Sociometry, Volume 4, No. 2, pages 205-216). This spontaneity state may, subjectively, have all the markings of a freely produced action, free from any external and from any internal influence which the person cannot control. Though this experience is delusionary, it represents the exact feeling of the person. The most important aspect of this concept is, and I cite, "It is not only the process within the person, but also the flow of feeling in the direction of the spontaneity state of another person. From the contact between two spontaneity states centering, naturally, in two different persons, there results an interpersonal situation." We may find here an understanding of why Hamlet's mother is not killed by her son, and why Gino carries through the act. The Queen awakes when Hamlet enters her bedroom, and speaks. The spontaneity state of the Queen influences the spontaneity state of Hamlet, and therefore leads to a different performance than in Gino's case, where his mother is asleep, her spontaneity state, thus, being null. Another factor influencing "Action," is the problem of timing, the warming-up process to a particular performance. A lag in this process that suddenly turns into an overheated phase, may become detrimental to the individuals involved in this action. This process is dependent not only on physiological and psychological factors within the individual, but depends also on the rôle of the "actor," that is, how close the rôle is to the phantasy and reality level, and whether or not in this rôle a symbol is represented with which

the individual has been indoctrinated from earliest childhood. The amount of spontaneity necessary for the performance of such "Collective" symbols, is extremely small. Thus, configuration of the social structure and the symbols that express it, enter into the timing of the performance. In Gino's case, the image of the patriarch upholding the family honor, requires little spontaneity to be expressed in the performance of the murder. Finally, we feel justified in expecting that spontaneity training on the psycho-dramatic stage of patients who show the first two stages of a catathymic crisis, i.e., (1) The stage of initial thinking disorder; (2) The stage of the crystallization of the plan, will prevent the development of the third stage in which the extreme tension culminates in the violent crisis.

Bruno Solby, M.D.
New York City

TO THE SUBSCRIBERS OF SOCIOMETRY

The concensus of opinion of the majority of the subscribers of SOCIOMETRY is that the policy of expanding the scope of the Journal--as has been attempted during the current year--has increased its value as an organ of social research. The aim of the Journal will therefore continue along these lines, adhering as heretofore to a strictly scientific policy, with its emphasis upon social measurement, interpersonal relations and methodology.

The Executive Committee will remain open to any suggestions which may further broaden the Journal's appeal.

The Executive Committee
J. L. Moreno, Chairman
G. A. Lundberg, Editor
J. G. Franz, Managing Editor

ANNOUNCEMENTS

SOCIOMETRIC CONFERENCES IN CONNECTION WITH THE ANNUAL MEETING OF THE AMERICAN SOCIOLOGICAL SOCIETY

Hotel Roosevelt
New York City, December 27, 28 & 29, 1941

December 27, 1:00-3:00 P.M. SECTION ON SOCIOMETRY.

William H. Sewell, Oklahoma A. and M. College, Chairman.

"The Relationship of Public Opinion Measures to Sociometric Procedures," Paul F. Lazarsfeld, Columbia University.

"Individual Differences in Personal Relationships," Helen H. Jennings, Columbia University.

"The Preliminary Standardization of a Social Insight Scale,"

F. Stuart Chapin, University of Minnesota.

Roundtable discussion.

December 28, 10:00-12:00 A.M. CONFERENCE ON SOCIOLOGY
AND SOCIOMETRY AS APPLIED TO NATIONAL DEFENSE.

J. L. Moreno, Beacon, New York, Chairman.

"General Methods," J. L. Moreno, Beacon, New York.

"Quantitative Methods," George A. Lundberg, Bennington College.

Panel discussion: F. Stuart Chapin, Leonard S. Cottrell, Jr., Margaret Hagan, Paul F. Lazarsfeld, Margaret Mead, Samuel A. Stouffer, Carl C. Taylor, Donald Young, and others.

December 29, 1:00-3:00 P.M. SPECIAL MEETING ON "THE
INTEGRATION OF SOCIOMETRIC FIELD WORK. George A.

Lundberg, Bennington College, Chairman.

Program to be announced.

REPORTS

PSYCHODRAMATIC MEETINGS AT WASHINGTON, D.C.

On September 3, 1941, J. L. Moreno, M.D., spoke on "The Psychodramatic Approach to Mental Disorders" before the Neuropsychiatric Section of the annual convention of the American Occupational Therapy Association, at the Mayflower Hotel, Washington, D.C. Discussants of Dr. Moreno's paper were Winfred Overholser, M.D., Superintendent of St. Elizabeths Hospital, and Miss Margaret Hagan, Field Director of the American Red Cross at St. Elizabeths Hospital.

On Thursday afternoon, September 4, a psychodramatic demonstration by Dr. Moreno took place in the Theatre for Psychodrama at St. Elizabeths Hospital for the benefit of the medical and nursing staffs of the hospital. A second demonstration, for the benefit of the members of the American Occupational Therapy Association, took place on Friday morning, September 5. At both demonstrations, Dr. Moreno was assisted by Miss Frances Herriott, Director of the Theatre for Psychodrama, at St. Elizabeths. Both demonstrations were extremely effective, due, largely, to the enthusiastic participation of the patients.

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The Scientific Monthly for October, 1941, has published an article by Dr. George A. Lundberg entitled "The Future of the Social Sciences."

Sociometry Monograph No. 1

DEVELOPMENTS IN SOCIAL PSYCHOLOGY

1930-1940

Leonard S. Cottrell, Jr.,
and
Ruth Gallagher
Cornell University

A comprehensive survey with numerous
bibliographical references and notes covering
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psychology. 58 pages. Price, \$1.00.

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1941

Copies of this Monograph may be obtained from the Office of
SOCIOMETRY, Beacon, New York. Postal charges prepaid.

Statement of the Ownership, Management, Circulation, etc., required by the Acts of Congress of August 24, 1912, and March 3, 1933

of Sociometry, A Journal of Inter-Personal Relations, published monthly at Beacon, N.Y., for October 1st, 1941.

State of New York ss.
County of Dutchess

Before me, a Notary Public in and for the State and county aforesaid, personally appeared J. L. Moreno, who, having been duly sworn according to law, deposes and says that he is the Owner of Sociometry, A Journal of Inter-Personal Relations and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, to wit: 1. That the names and addresses of the publisher, editor and business managers are: Publisher, Sociometry, 259 Wolcott Avenue, Beacon, N.Y.; Editor, George A. Lundberg, Bennington College, Bennington, Vt.; Managing Editor, J. G. Franz, 69 16th Avenue, Columbus, Ohio; Business Managers, none. 2. That the owner is: J. L. Moreno, 259 Wolcott Avenue, Beacon, N.Y. 3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: none. 4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear on the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him. Signed, J. L. Moreno, Owner. Sworn to and subscribed before me this 1st day of October, 1941. (Seal) Warren C. Taylor, Notary Public.

